



**US Army Corps  
of Engineers**

Construction Engineering  
Research Laboratories



**USACERL Technical Report FE-95/08  
January 1995**

# **Central Heating Plant Economic Evaluation Program, Volume 3: Military Base Weather Information Data Management Program**

by

Mike C.J. Lin  
Ralph Moshage  
Gary Schanche  
Christopher Blazek  
Richard Biederman  
John Kinast  
Janet Gutraj  
Dale Conley  
Charles Schmidt

Public Law has directed the Department of Defense (DOD) to rehabilitate and convert its existing domestic power plants to burn more coal. Other Federal legislation requires DOD to use the most economic fuel for any new heating system.

This five-volume report discusses the Central Heating Plant Economic Evaluation Program (CHPECON), a computer program for screening potential new and retrofit steam/power generation facilities.

Volume 1 is the Technical Reference.  
Volume 2 is the User's Manual.  
Volume 3 is the Military Base Weather Information Data Management Program.  
Volume 4 is the Coalfield Properties Information Data Management Program.  
Volume 5 is the Emission Regulations Data Management Program.

CHPECON provides screening criteria to evaluate competing combustion technologies using coal, gas, or oil; detailed conceptual facility design information; budgetary facility costs; and economic measures of project acceptability including total life cycle costs and levelized cost of service.

The program provides sufficient flexibility to vary critical design and operating parameters to determine project sensitivity and parametric evaluation.

19950419 104

DTIC QUALITY INSPECTED 3

The contents of this report are not to be used for advertising, publication, or promotional purposes. Citation of trade names does not constitute an official endorsement or approval of the use of such commercial products. The findings of this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

***DESTROY THIS REPORT WHEN IT IS NO LONGER NEEDED***

***DO NOT RETURN IT TO THE ORIGINATOR***

## USER EVALUATION OF REPORT

REFERENCE: USACERL Technical Report FE-95/08, *Central Heating Plant Economic Evaluation Program, Volume 3: Military Base Weather Information Data Management Program*

Please take a few minutes to answer the questions below, tear out this sheet, and return it to USACERL. As user of this report, your customer comments will provide USACERL with information essential for improving future reports.

1. Does this report satisfy a need? (Comment on purpose, related project, or other area of interest for which report will be used.)

---

---

---

2. How, specifically, is the report being used? (Information source, design data or procedure, management procedure, source of ideas, etc.)

---

---

3. Has the information in this report led to any quantitative savings as far as manhours/contract dollars saved, operating costs avoided, efficiencies achieved, etc.? If so, please elaborate.

---

---

4. What is your evaluation of this report in the following areas?

a. Presentation: 

---

b. Completeness: 

---

c. Easy to Understand: 

---

d. Easy to Implement: 

---

e. Adequate Reference Material: 

---

f. Relates to Area of Interest: 

---

g. Did the report meet your expectations? 

---

h. Does the report raise unanswered questions? 

---

i. General Comments. (Indicate what you think should be changed to make this report and future reports of this type more responsive to your needs, more usable, improve readability, etc.)

---

---

---

---

---

---

5. If you would like to be contacted by the personnel who prepared this report to raise specific questions or discuss the topic, please fill in the following information.

Name: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Organization Address: \_\_\_\_\_

---

---

6. Please mail the completed form to:

Department of the Army  
CONSTRUCTION ENGINEERING RESEARCH LABORATORIES  
ATTN: CECER-IMT  
P.O. Box 9005  
Champaign, IL 61826-9005

## Notice to Program Recipients

This program is furnished by the U.S. Government and is accepted and used by the recipient with the express understanding that the Government makes no warranty, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the information and data contained in this program or furnished in connection therewith, and the United States shall be under no liability whatsoever to any person by reason of any use made thereof.

The program belongs to the Government. Therefore, the recipient further agrees not to assert any proprietary rights therein or to represent this program to anyone as other than a Government program. The recipient also agrees that the program and all documents related thereto, including all copies and versions (except when expressly authorized otherwise) in possession thereof, will be discontinued from use or destroyed upon request by the Government.

The program is to be used only in the public interest and/or the advancement of science and will not be used by the recipient to gain unfair advantage over any client or competitor. Whereas the recipient may charge clients for the ordinary costs of applying the program, the recipient agrees not to levy a charge, royalty, or proprietary usage fee (except to cover any normal copying and/or distribution costs) upon any client for the development or use of the received program. Recipients desiring to modify and remarket the program will be required to comply with a separate agreement. Only minor or temporary modifications will be made to the program (e.g., necessary corrections or changes in the format of input or output) without written approval from the Government. Should the program be furnished by the recipient to a third party, the recipient is responsible to that third party for any support and upkeep of the program. Information on the source of the program will be furnished to anyone requesting such information.

The accuracy of this program depends entirely on user-supplied data. It is the user's responsibility to understand how the input data affects the program output and to use the output data only as intended.

All documents and reports conveying information obtained as a result of the use of the program by the recipient will acknowledge the Corps of Engineers, Department of the Army, as the origin of the program. All such documentation will state the name and version of the program used by the recipient.

Accession For	
NTIS CRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification:	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

# REPORT DOCUMENTATION PAGE

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave Blank)		2. REPORT DATE January 1995	3. REPORT TYPE AND DATES COVERED Final	
4. TITLE AND SUBTITLE Central Heating Plant Economic Evaluation Program, Volume 3: Military Base Weather Information Data Management Program			5. FUNDING NUMBERS MIPR No. W56HZV89-AC-01, dated 20 November 1989	
6. AUTHOR(S) Mike C.J. Lin, Ralph Moshage, Gary Schanche, Christopher Blazek, Richard Biederman, John Kinast, Janet Gutraj, Dale Conley, and Charles Schmidt				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Construction Engineering Research Laboratories (USACERL) P.O. Box 9005 Champaign, IL 61826-9005			8. PERFORMING ORGANIZATION REPORT NUMBER  FE-95/08	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Office of the Assistant Secretary of Defense, Production & Logistics, Energy Policy ATTN: OASD(P&L/EP) 400 Army/Navy Drive, Suite 206 Arlington, VA 22202			10. SPONSORING / MONITORING AGENCY REPORT NUMBER  Assistant Chief of Staff for Installation Management ATTN: DAIM-FDF-U 7701 Telegraph Road Alexandria, VA 22310-3862	
11. SUPPLEMENTARY NOTES Copies are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT  Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words)  Public Law has directed the Department of Defense (DOD) to rehabilitate and convert its existing domestic power plants to burn more coal. Other Federal legislation requires DOD to use the most economic fuel for any new heating system.  This five-volume report discusse the Central Heating Plant Economic Evaluation Program (CHPECON), a computer program for screening potential new and retrofit steam/power generation facilities.  Volume 1 is the Technical Reference.  Volume 2 is the User's Manual.  Volume 3 is the Military Base Weather Information Data Management Program.  Volume 4 is the Coalfield Properties Information Data Management Program.  Volume 5 is the Emission Regulations Data Management Program.  CHPECON provides screening criteria to evaluate competing combustion technologies using coal, gas, or oil; detailed conceptual facility design information; budgetary facility costs; and economic measures of project acceptability including total life cycle costs and levelized cost of service.  The program provides sufficient flexibility to vary critical design and operating parameters to determine project sensivity and parametric evaluation.				
14. SUBJECT TERMS Central Heating Plant Economic Evaluation (CHPECON) central heating plants coal-fired technologies			15. NUMBER OF PAGES 176	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT SAR	

## Foreword

This study was conducted for the Assistant Chief of Staff for Installation Management (ACS(IM)), Directorate of Facilities and Housing under the Coal Conversion Studies Program, which is administered by the Energy Policy Directorate of the Office of the Assistant Secretary of Defense, Production & Logistics, Energy Policy (OASD P&L/EP). Millard Carr is the Program Manager. Funding was provided under Military Interdepartmental Purchase Request (MIPR) No. W56HZV89-AC-01; Work Units "Coal Conversion Strategies for DOD" and "Enhancement of Existing Models," dated 20 November 1989. The technical monitor was Qaiser Toor, DAIM-FDF-U.

The work was performed by the Fuels and Power Systems Team (FEP), Energy and Utility Systems Division (FE) of the Infrastructure Laboratory (FL), U.S. Army Construction Engineering Research Laboratories (USACERL). Special acknowledgement is given to Lee Thurber, Rama Katz, and Mei-Yi Feng, CECER-FE for their efforts in organizing technical materials. Dr. David M. Joncich is Chief, CECER-FE, and Alan Moore is Acting Chief, CECER-FL. The USACERL technical editor was Gloria J. Wienke, Information Management Office.

LTC David J. Rehbein is Commander and Acting Director, USACERL. Dr. Michael J. O'Connor is Technical Director.

# Contents

SF 298 .....	1
Foreword .....	2
List of Figures and Tables .....	4
<b>1 Introduction .....</b>	<b>5</b>
Background .....	5
Objective .....	5
Approach .....	5
Report Organization .....	7
System Requirements .....	7
Scope .....	7
Mode of Technology Transfer .....	8
<b>2 The MILBASE Program .....</b>	<b>9</b>
<b>3 Information Review .....</b>	<b>11</b>
<b>4 Information Editing .....</b>	<b>15</b>
<b>5 Weather Data Spreadsheet Calculations .....</b>	<b>18</b>
<b>6 Program and Data Listing .....</b>	<b>21</b>
<b>7 Installing and Running MILBASE .....</b>	<b>23</b>
<b>Metric Conversion Table .....</b>	<b>23</b>
<b>Appendix A: Spreadsheet Formulas for Weather Data Calculations .....</b>	<b>A-1</b>
<b>Appendix B: Program Listing .....</b>	<b>B-1</b>
<b>Appendix C: Facility Design and Planning Engineering Weather Data Listing .....</b>	<b>C-1</b>
<b>DISTRIBUTION</b>	



## List of Figures and Tables

### Figures

1	Screen display for detailed view of military base information . . . . .	11
2	Screen display for detailed view of military base weather information . . . . .	12
3	Example of military base information printout . . . . .	13
4	Screen display of condensed view of military base informa- tion . . . . .	14
5	Editing display of military base information, page 1 . . . . .	15
6	Editing display of military base information, page 2 . . . . .	16
7	Representative display of spreadsheet for weather data calculations . . . . .	19

### Tables

1	Structure for database file MILBASE.DBF . . . . .	21
---	---	----

# 1 Introduction

## Background

The fiscal year (FY) 1986 Defense Appropriation Act (Public Law [PL]-99-190) Section 8110 directed the Department of Defense (DOD) to implement the rehabilitation and conversion of central heating plants to coal firing. The target set by this act was 1.6 million short tons<sup>\*</sup> of coal per year above the 1985 consumption level by 1994. The language further stated that 300,000 tons of this amount should be anthracite coal. The purpose of this Section was to offset decreasing anthracite coal use in Germany resulting from U.S. Army, Europe (USAREUR) installations connecting to district heating systems. The FY 1987 Defense Authorization Act (PL-99-661 Section 1205) also directed that the primary fuel source in any new heating system be the most life cycle cost effective. To assist in complying with these acts, the U.S. Army Center for Public Works (USACPW) requested that the U.S. Army Construction Engineering Research Laboratories (USACERL) provide technical studies and support for the Army's Coal Conversion Program.

## Objective

The objective of this project is to develop a series of screening and life cycle cost estimating computer models to determine when and where specific coal combustion technologies can be economically implemented at Army central heating plants.

## Approach

The approach for providing Coal Conversion Program support has been to develop tools useful for long range utility planning and for evaluating both the technical and economic feasibility of conversion. Cost estimating methods have been developed for building new coal, gas, or oil plants, and for retrofitting existing plants to coal firing capability. Supporting data bases have been developed covering installation-specific data (heating plant inventory, building inventory, weather data, energy usage), environmental regulations, coal supply information, and combustion equipment

---

\* A metric conversion table is on page 23.

performance. The plant sizes examined in the model range from 50,000 to 600,000 pounds per hour (lb/hr) with individual boiler sizes from 20,000 to 200,000 lb/hr of steam or high temperature hot water (HTHW). The program is divided into two parts: the preliminary screening model and the detailed cost model. The screening model is used to initially evaluate each plant site and boiler technology option to produce a list of the promising locations and technology options. The screening model contains five distinct sections for evaluating new heating plants, retrofit heating plants, cogeneration facilities (in base-managed and third-party-managed forms), and consolidation of existing multiple boiler plants.

The new heating plant screening model is used to determine if a new coal fired heating plant can be built to replace an existing steam plant (150 pounds per square inch gauge [psig] saturated steam or equivalent hot water or 250 psig saturated steam). The boiler technology options include: stoker, bubbling fluidized bed, circulating fluidized bed, coal/water slurry, coal/oil slurry, natural gas, and #2 and #6 fuel oils.

The retrofit screening model is used to determine if the existing boilers can be retrofitted to fire coal or low-British thermal unit (Btu) gas supplied from a gasifier. The boiler options include: coal-water slurry, coal-oil slurry, micronized coal, slagging coal, bubbling fluidized bed, and stoker, as well as gasification.

The cogeneration screening model is used to determine if a new cogeneration steam plant is a feasible alternative for a military base heating plant. Medium pressure (600 psig, 750 °F) or high pressure (1300 psig, 1000 °F) plants can be analyzed. The boiler types considered are stoker, coal-oil slurry, coal-water slurry, bubbling fluidized bed, and circulating fluidized bed.

The consolidation screening model is used to determine if the military base should consolidate several individual heating plants into one main heating plant. This section assesses whether the steam distribution density is sufficient to consider consolidation as a practical option.

After the screening model has been executed, the user has the option to quit or to restart another screening model (for another option) or to continue to obtain a cost estimate for the selected facility. The costing model contains sections for a new heating plant, retrofit heating plant, cogeneration facility (base and third party) and consolidated facility.

The costing model provides conceptual facility design, capital installed costs of the conceptual facility, operational and maintenance costs over the life of the conceptual facility, and life cycle costs.

## Report Organization

This report discusses the Central Heating Plant Economic Evaluation Program (CHPECON) and is divided into the following five volumes:

Central Heating Plant Economic Evaluation Program, Volume 1: Technical Reference

Central Heating Plant Economic Evaluation Program, Volume 2: User's Manual

**Central Heating Plant Economic Evaluation Program, Volume 3:**

**Military Base Weather Information Data Management Program**

Central Heating Plant Economic Evaluation Program, Volume 4: Coalfield Properties Information Data Management Program

Central Heating Plant Economic Evaluation Program, Volume 5: Emission Regulation Data Management Program

## System Requirements

CHPECON was developed using an 80286 personal computer with 640K memory, and was run using MS-DOS 3.3. The models should operate satisfactorily on 8088/80286/80386 processors with MS-DOS 2.0 and above. The program is written in dBase III Plus compatible language with some extensions. To provided the necessary speed and compactness, the program is distributed in compiled form using Nantucket's Clipper and allows stand-alone operation without requiring addition utilities.\*

## Scope

The purpose of this work is to investigate the feasibility of conversion of Army central heating plants to coal firing. The models developed are generally applicable to industrial or large commercial facilities. The economic evaluation program for screening and life cycle costs will serve as a tool to select and rank potential Army sites for coal conversion.

---

\* dBASE III Plus is a registered trademark of Ashton-Tate, and Clipper is a registered trademark of Nantucket Software.

### **Mode of Technology Transfer**

The CHPECON program may be obtained by contacting the USACERL Fuels and Power Systems Team at 1-800-872-2375, extension 5551. The program will be transferred to Major Army Command Headquarters for further distribution. It is recommended that availability of this program and the information presented in this report be disseminated in a Public Works Technical Bulletin.

## 2 The MILBASE Program

This data base program for Army base weather data was developed to support an overall program for studying coal usage at continental U.S. Army bases. The program, MILBASE, is written in dBASE III Plus and can be used as a stand-alone program or can be merged with the overall Central Heating Plant Economic Evaluation (CHPECON) Program. The stand-alone capability of the MILBASE program eliminates the need to reinstall all of the CHPECON program files when updating only the military base information files. In support of CHPECON, MILBASE maintains the files used by the coal program for information about weather conditions at military bases.

The *Facility Design and Planning Engineering Weather Data* manual (Air Force Manual [AFM 88-29], Technical Manual [TM 5-785], Navy Manual [NAVFAC P-89], dated 1 July 1978) was used as the source of the weather data. The manual is a reference for uniform engineering weather data for winter heating design, heating degree days, summer air conditioning design criterion calculation of energy consumption estimates, and cooling degree days. The data in this manual were compiled by the Engineering Meteorology Section (ENE) of the U.S. Air Force Environmental Technical Applications Center (USAFETAC), at the request of the DOD. As the primary reference for weather data, it has been used to develop the information needed to assess potential coal-fired boiler installations.

The majority of sites listed are located at military installations. However, the manual does not have entries for all military bases, nor does it have complete information for many bases that have winter design data for heating, such as, temperature distributions used to develop monthly heating degree days used by CHPECON. The stations in the manual are a representation of the various climatic regimes experienced throughout the United States. These factors have been taken into account in developing the specific information for the MILBASE data base. When no entry was found for a particular base, the weather data for a nearby base or other location (such as an airport) was used. When a nearby weather station was used for a particular base, a reference to the weather data is entered into the note field for that base.

To add to the information data base, you must have similar data. USAFETAC/ ENE has information on other sites. Additional sources of weather information are the

National Climatic Center of the National Oceanic and Atmospheric Administration, and the American Meteorological Society, which has lists of consulting meteorologists.

### 3 Information Review

Figure 1 shows the standard display for the military base weather data program. The information used by CHPECON is contained on two screens divided into logical sections. The center section of the screen is information about the military base and winter design data. The area at the bottom is for the menu prompts and display of program messages. Information is accessed and updated through this menu. To select an option, press the capitalized letter in the option description.

**Edit base <E>** permits editing of the displayed military base.

**Add base <A>** adds a new entry; this consists of two steps, adding a blank field entry, then going to the editing subroutine to enter the correct values for a new military base.

**move Forward <F>** displays the next military base (as if flipping through a card file) until the end is reached.

**move Backward <B>** displays the previous military base (moving toward the beginning of the file) until the first entry is reached. The entries in the file are arranged by state.

Military Base Information Management Program		09/01/88
Military base update		
State: MO - Missouri		Last changed: 09/01/88
Latitude: 37° 45'	Longitude: 92° 9'	ID code: MO-1
County:		
Base name: Fort Leonard Wood		
Base in a non-attainment area: N		
Comment:		
Annual heating degree days: 4707		
Winter heating design temperature (97.5%): 9°F		
<hr/> Edit base / Add base / move Forward / move Backward / Delete base change Views / Switch to weather page / Print base list / Quit Option (E/A/F/B/D/V/S/P/Q)      " "		

Figure 1. Screen display for detailed view of military base information.



**Delete base <D>** causes the field currently displayed to be eliminated from the file. The information that was entered is lost. As a check, you are asked to confirm the decision to delete a military base.

**Change Views <V>** switches to a display that shows less information about an individual base, but allows many bases to be displayed at one time. This is discussed in detail below.

**Switch to weather page <S>** switches the display to the second page (screen) to show the detailed weather data (annual and monthly average outdoor temperatures and monthly heating degree days), as shown in Figure 2. Pressing <S> again switches back to the first screen. Executing any other option also switches back to the first screen.

**Print base list <P>** allows you to print entries from the coalfield data base. Selecting this option brings up another prompt, asking if you want to print the displayed entry, the entries for a single state, all entries, or quit and return to the main screen without printing. If you request printing of the displayed field or all fields, the program begins printing. If you request printing by state, the program asks for the name or abbreviation of the state. After answering the prompt for the state, the program begins printing. An example of the printed information is shown in Figure 3.

**Quit <Q>** returns you to the previous menu, if the program was run as part of the overall program set, or returns to the operating system, if the program was run as a separate module.

Military Base Information Management Program						09/01/88		
Military base update								
Base name: Fort Leonard Wood								
Annual average outdoor temperature: 55°F								
	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1002	32°F	May	130	65°F	Sep	85	68°F
Feb	856	34°F	Jun	29	73°F	Oct	298	57°F
Mar	616	44°F	Jul	10	77°F	Nov	555	46°F
Apr	267	58°F	Aug	20	74°F	Dec	839	37°F
<hr/> Edit base / Add base / move Forward / move Backward / Delete base change Views / Switch to weather page / Print base list / Quit Option (E/A/F/B/D/V/S/P/Q)      « »								

Figure 2. Screen display for detailed view of military base weather information.

Military Installation Database Listing for: AZ - Arizona Page 1

Base name: FLAGSTAFF  
 State: AZ - Arizona Last changed: 09/01/88  
 Latitude: 35d 8m Longitude: 111d 40m ID code: AZ-1  
 County:  
 Base in a non-attainment area: N  
 Comment:

Annual heating degree days: 7322  
 Winter heating design temperature (97.5%): 4F  
 Annual average outdoor temperature: 46F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1142	28F	May	425	52F	Sep	278	58F
Feb	949	31F	Jun	212	61F	Oct	519	49F
Mar	941	34F	Jul	106	67F	Nov	878	35F
Apr	636	44F	Aug	153	63F	Dec	1084	30F

Base name: FORT HUACHUCA/LIBBY AAF  
 State: AZ - Arizona Last changed: 09/01/88  
 Latitude: 31d 35m Longitude: 110d 20m ID code: AZ-2  
 County:  
 Base in a non-attainment area: N  
 Comment:

Annual heating degree days: 2551  
 Winter heating design temperature (97.5%): 28F  
 Annual average outdoor temperature: 62F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	520	46F	May	71	69F	Sep	26	72F
Feb	415	48F	Jun	12	77F	Oct	135	64F
Mar	349	53F	Jul	2	77F	Nov	332	53F
Apr	178	61F	Aug	6	75F	Dec	504	46F

Base name: GILA BEND  
 State: AZ - Arizona Last changed: 09/01/88  
 Latitude: 32d 54m Longitude: 112d 43m ID code: AZ-3  
 County:  
 Base in a non-attainment area: N  
 Comment: WEATHER DATA FROM YUMA MCAS, AZ.

Annual heating degree days: 1348  
 Winter heating design temperature (97.5%): 32F  
 Annual average outdoor temperature: 74F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	270	55F	May	16	79F	Sep	0	88F
Feb	168	60F	Jun	1	88F	Oct	18	77F
Mar	124	64F	Jul	0	93F	Nov	128	63F
Apr	45	72F	Aug	0	92F	Dec	235	57F

Figure 3. Example of military base information printout.

Changing the view from the detailed information display brings up a display showing many military base entries per screen, but less information about each military base. An example of the display is presented in Figure 4. The menu options are the same as for the detailed display; however, they work somewhat differently.

Military Base Information Management Program		09/01/88
Military base update		
State	Base	
MI	Camp Grayling, Grayling	
MN	Camp Ripley, Little Falls	
MN	Twin Cities Ordnance Plant	
MO	Lake City Army Ammunition Plant	
MO	Fort Leonard Wood	
MO	Gateway Army Ammunition Plant, St. Louis	
MO	St. Louis Army Ammunition Plant	
MS	Mississippi Army Ammunition Plant	
MS	Camp Shelby, Hattiesburg	
MT	Fort Missoula, Missoula	
NC	Camp Mackall	
NC	Sunny Point Military Ocean Terminal	
NC	Tarheel Army Missile Plant, Burlington	

---

Edit base / Add base / move Forward / move Backward / Delete base  
 change Views / Switch to weather page / Print base list / Quit  
 Option (E/A/F/B/D/V/S/P/Q) « »

Figure 4. Screen display of condensed view of military base information.

“Edit base <E>” requires you to first indicate which entry should be edited out of the list displayed, then proceeds as before. Use the up- and down-arrow keys on the cursor keypad, then press “E” when the pointer is at the desired field. You can also quit from the editing pointer display back to the main menu. “Add base <A>” is the same in that a blank entry is created, then the program switches to editing the blank entry to place the information in the file.

Moving “Forward <F>” and “Backward <B>” moves up or down one screen at a time. Since many military bases are displayed, this allows quicker movement through the file.

“Delete field <D>” requires you to first indicate which entry should be deleted. Deleting in this view also requires a confirmation, as did deleting in the detailed view.

“Switch to weather page <S>” causes an automatic switch to the detailed view in addition to the display of the weather data.

“Change Views <V>” in this view moves you back to the detailed view.

“Print base list <P>” is the same as before, as is “Quit <Q>”.

## 4 Information Editing

Once you select the edit or add option from the main menu, the detailed view is switched back if needed and you are presented with the first screen of information. The legend "Page 1" will show in the upper left corner of the screen (Figure 5). The information displayed in the detailed view is divided into logical sections. The first section is the military base's location. The last changed date that shows on the general display is absent when editing information because you cannot directly change it. When base data is edited, or when it is first added, the last changed date is automatically updated to the current date in the computer system's clock. The latitude displayed is the north (assumed) latitude of the military base in the format  $DDD^{\circ} MM'$  where  $DDD$  is in degrees,  $MM$  is in minutes. Acceptable values for latitude are between  $25^{\circ}$  and  $72^{\circ}$ . The longitude displayed is the west (assumed) longitude of the military base in the format  $DDD^{\circ} MM'$ . Acceptable values for longitude are between  $63^{\circ}$  and  $172^{\circ}$ .

The ID code is a unique alphanumeric label you give to the entry. If more than one base is given the same name, the ID code helps to identify which set of information was used. MILBASE checks the existing entries to ensure that this entry is unique, and not blank. For the purpose of this project, the ID code has taken on the format of [state abbreviation]-[number], where the number is the ordinal number of the entry within the State. You can change this to any other desired format.

Military Base Information Management Program		09/01/88
Military base update		

Page 1

State: MO - Missouri  
Latitude: 37° 45'      Longitude: 92° 9'      ID code: MO-1  
County:

Base name: Fort Leonard Wood

Base in a non-attainment area: N

Comment:

Annual heating degree days: 4707  
Winter heating design temperature (97.5%): 9°F

Accept (save) / Change / Quit (without saving)  
Option (A/C/Q)      « »

Figure 5. Editing display of military base information, page 1.

The base name is the entry used as the heading for all reports produced by CHPECON. It can be a real base name, a fictitious entry, or any other note that is useful for identifying the evaluation.

The nonattainment area entry represents a region that is not in compliance with ambient air quality regulations. This situation may make it considerably more difficult to obtain the necessary permits for a coal-fired boiler plant.

The annual heating degree days are the mean annual number of degree days using a base of 65 °F and a 30-year normal period of record when available. The acceptable range for annual heating degree days is from 0 to 20,000. The winter heating design temperature is dry bulb temperature (°F) that is equaled or exceeded 97.5 percent of the time, on the average, during the coldest three consecutive months. For the contiguous United States, these months have been standardized as December, January, and February, even though at a few sites March was colder than December. Acceptable values for the winter heating design temperature are from -50 to 80 °F.

Once this information is complete, MILBASE asks whether the data is to be accepted, changed again, or not saved (as indicated by quitting). Changing allows you to go through the screen entries again. Quitting returns you to the information display without changing the stored values. Accepting allows you to proceed to page 2 of the information, shown in Figure 6.

The second information page is indicated by the "Page 2" legend in the upper left corner of the screen. The entries on this page are numeric and have been calculated

Military Base Information Management Program						09/01/88		
Military base update								
Page 2								
Annual average outdoor temperature: 55°F								
	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1002	32°F	May	130	65°F	Sep	85	68°F
Feb	856	34°F	Jun	29	73°F	Oct	298	57°F
Mar	616	44°F	Jul	10	77°F	Nov	555	46°F
Apr	267	58°F	Aug	20	74°F	Dec	839	37°F
Accept (save) / Change / Quit (without saving)								
Option (A/C/Q) « »								

Figure 6. Editing display of military base information, page 2.

from the temperature bin entries in the Engineering Weather Data manual. Annual average outdoor temperature is the first entry, with acceptable values from -50 to 80 °F. MILBASE then asks for the monthly heating degree days (MHDD) for each of the 12 months. Acceptable values for monthly heating degree days are between 0 and 2500. The program then asks for the average monthly outdoor temperature (Tam, or Temperature, ambient, mean) for each month, with acceptable values from -50 to 120 °F. After these values have been entered, you are again presented with the option to Accept (save), Change, or Quit (without saving).

These options apply only to this page of information; the first page had to be accepted to get to this level.

## 5 Weather Data Spreadsheet Calculations

The calculations for the weather data for each military base were performed with the help of a Lotus 1-2-3\* spreadsheet. The formulas in the spreadsheet are presented in Appendix A. The display that you see is shown in Figure 7. Data for the calculations was obtained from the Engineering Weather Data manual. The annual heating degree days is input from the winter design data for heating. The data for use in calculating energy consumption estimates for each site on a monthly basis is also entered. Specifically, these are the sum of observations during the day for each month of the year at each station.

The following, briefly, are the steps involved in the calculation of the weather data.

1. The mean temperature for each 5-degree temperature interval is calculated.
2. The number of degrees that the mean temperature is below the base temperature of 65 °F is counted.
3. The product of the mean temperature and the total number of hourly observations is computed.
4. The product of the total number of observations and the number of degrees that the mean temperature is below 65 °F is also calculated.

The spreadsheet has been constructed in such a way that the above calculations are not visible when you use the spreadsheet. The next calculations are, however, visible and are explained below.

5. Total cnt: This total count is the sum of the number of observations over all temperature intervals.
6. Avg temp: The average temperature is the result calculated in step 3 divided by the total observations calculated in step 5.

$$\text{Avg temp} = \frac{\text{Sum}(\text{mean temperature} * \text{total number of observations})}{\text{Sum}(\text{total number of observations})}$$

Sum(total number of observations)

---

\* Lotus and 1-2-3 are registered trademarks of Lotus Development Corp.

1		Base : FORT LEONARD WOOD AAF, MISSOURI												
2														
3		Temp												
4		Range	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR
5														
6	120 / 124													
7	115 / 119													
8	110 / 114													
9	105 / 109													
10	100 / 104				1	1								
11	95 / 99			1	14	6	1							
12	90 / 94	0	13	49	26	6	0							0
13	85 / 89	14	59	86	66	29	3							5
14	80 / 84	60	100	121	106	51	16						2	18
15	75 / 79	74	127	162	141	87	30	6			0		11	38
16	70 / 74	110	153	179	172	134	56	15	2	2	0		19	60
17	65 / 69	134	139	79	126	154	91	41	10	6	3		27	90
18	60 / 64	119	79	36	68	105	114	63	23	14	9		50	114
19	55 / 59	108	35	14	22	81	115	80	36	29	20		53	113
20	50 / 54	70	13	3	8	50	109	85	54	48	39		72	91
21	45 / 49	40	2	0	1	19	93	84	63	49	52		73	81
22	40 / 44	11				5	70	109	105	74	72		86	61
23	35 / 39	3				1	33	103	113	78	109		98	27
24	30 / 34	1				0	11	74	135	107	125		114	16
25	25 / 29						3	33	95	100	89		75	1
26	20 / 24							15	67	90	73		14	
27	15 / 19							5	23	61	49		8	
28	10 / 14							4	12	40	20		2	
29	5 / 9							2	3	27	8			
30	0 / 4								2	11	5			
31	-5 / -1								0	7	0			
32	-10 / -6									2				
33	-15 / -11													
34	-20 / -16													
35	-25 / -21													
36	-30 / -26													
37	-35 / -31													
38														
39	Total cnt	744	721	744	743	723	744	719	743	745	673	704	715	
40	Avg temp	65	73	77	74	68	57	46	37	32	34	44	58	
41	Htg Dg Day	130	29	10	20	85	298	555	839	1002	856	616	267	
42														
43	Ann HDD	4707												
44	Ann Avg	55												
45														

Figure 7. Representative display of spreadsheet for weather data calculations.

7. Ann HDD: This is the calculated annual heating degree days for a station, based on the information entered into the spreadsheet. It may differ from the reported value because of statistical differences in reporting. This value and the reported annual heating degree days are used to adjust the monthly heating degree days to accommodate this difference.
8. Htg Dg Day: This is the value for monthly heating degree days required by MILBASE. It is the result of the product calculated in step 4 divided by the total



observation count below 65 °F, divided by 24 (to convert from degree-hours to degree-days), then multiplied by the ratio between calculated and reported annual heating degree days.

$$\text{deg-hrs} = \frac{\text{Sum}( (65^\circ\text{F} - \text{mean temp}) * \text{obs} \text{ for mean temp} < 65^\circ\text{F} )}{\text{Sum}( \text{total \# of obs. for mean temp} < 65^\circ\text{F} )}$$

$$\text{Htg Dg Day} = \text{deg-hrs} * (\text{reported HDD}) / (\text{calc HDD}) / 24$$

9. Ann Avg: This is the annual average temperature for the station. This is the sum of the product of total count and average temperature divided by the sum of the total count.

$$\text{Ann Avg} = \frac{\text{Sum}(\text{Total cnt} * \text{Avg temp})}{\text{Sum}(\text{Total cnt})}$$

$$\text{Sum}(\text{Total cnt})$$

## 6 Program and Data Listing

The listing of the program segments is contained in Appendix B. A listing of the information stored in the military base weather data base is contained in Appendix C.

The file structure of MILBASE.DBF is shown in Table 1. The individual data base fields are updated through the military base information screens, as described above.

**Table 1. Structure for database file MILBASE.DBF.**

Field	Field Name	Field Type	Field Width	Decimal Width
1	BASENAME	Character	60	
2	STATE	Character	2	
3	COUNTY	Character	40	
4	ID CODE	Character	6	
5	LAST CHG	Date	8	
6	LAT H	Numeric	3	0
7	LAT M	Numeric	3	0
8	LONG H	Numeric	3	0
9	LONG M	Numeric	3	0
10	HTG DSGN	Numeric	3	0
11	NONATT	Logical	1	
12	CMMT	Character	60	
13	HDD	Numeric	5	0
14	HDD 1	Numeric	5	0
15	HDD 2	Numeric	5	0
16	HDD 3	Numeric	5	0
17	HDD 4	Numeric	5	0
18	HDD 5	Numeric	5	0
19	HDD 6	Numeric	5	0
20	HDD 7	Numeric	5	0

Field	Field Name	Field Type	Field Width	Decimal Width
21	HDD 8	Numeric	5	0
22	HDD 9	Numeric	5	0
23	HDD 10	Numeric	5	0
24	HDD 11	Numeric	5	0
25	HDD 12	Numeric	5	0
26	T AVG	Numeric	3	0
27	T A 1	Numeric	3	0
28	T A 2	Numeric	3	0
29	T A 3	Numeric	3	0
30	T A 4	Numeric	3	0
31	T A 5	Numeric	3	0
32	T A 6	Numeric	3	0
33	T A 7	Numeric	3	0
34	T A 8	Numeric	3	0
35	T A 9	Numeric	3	0
36	T A 10	Numeric	3	0
37	T A 11	Numeric	3	0
38	T A 12	Numeric	3	

## 7 Installing and Running MILBASE

The stand-alone nature of MILBASE requires that it be installed as an independent entity before use, even if it will be used only as part of CHPECON. The files are stored on one disk, containing both the programs for MILBASE and the data files. The installation consists of copying the disks to a suitable subdirectory on a hard disk of the computer that will be used. MILBASE will automatically create the index files needed for its operation when first run.

To run MILBASE as a stand-alone program, you must know the program's environment.

1. If run under dBASE III or a compatible interpreter (like FoxBase\*), start dBASE, then enter the command DO MILBASE, and press the <RETURN> key.
2. If run as a compiled program (like Clipper\*\*), from the DOS prompt (or similar), enter the command MILBASE, and press the <RETURN> key.

Exiting the program will return you to the level that called it—the dot prompt if in dBASE or FoxBase and the DOS prompt if in Clipper.

### Metric Conversion Table

1 in.	=	25.4 mm
1 sq in	=	6.452 cm <sup>2</sup>
1 psi	=	6.89 kPa
1 psi	=	89.300 g/cm <sup>2</sup>
1 lb	=	0.453 kg
1 lb/hr	=	0.126 g/s
1 cu ft	=	0.028 m <sup>3</sup>
1 sq ft	=	0.093 m <sup>2</sup>
°F	=	(°C + 17.78) × 1.8
1 Btu/lb	=	0.556 cal/g
1 ton	=	907.185 kg

---

\* FoxBase is a registered trademark of Fox Software, Inc.

\*\* Clipper is a registered trademark of Nantucket Software.

## **Appendix A: Spreadsheet Formulas for Weather Data Calculations**

<u>Cell</u>	<u>Width</u>	<u>Format</u>	<u>Contents</u>
O1:			+043
U1:			+U43
A3:	[W4]		' Temp
D3:			"median
E3:	[W12]		^degrees
H3:			"<65
K3:			"<65
N3:			"<65
Q3:			"<65
T3:			"<65
W3:			"<65
Z3:			"<65
AC3:			"<65
AF3:			"<65
AI3:			"<65
AL3:			"<65
A4:	[W4]		' Range
D4:			"temp
E4:	[W12]		^below
F4:			^MAY
G4:			'obs*db
H4:			'obs*db
I4:			^JUNE
J4:			'obs*db
K4:			'obs*db
L4:			^JULY
M4:			'obs*db
N4:			'obs*db
O4:			^AUG
P4:			'obs*db
Q4:			'obs*db
R4:			^SEPT
S4:			'obs*db
T4:			'obs*db
U4:			^OCT
V4:			'obs*db
W4:			'obs*db
X4:			^NOV
Y4:			'obs*db
Z4:			'obs*db
AA4:			^DEC
AB4:			'obs*db
AC4:			'obs*db
AD4:			^JAN
AE4:			'obs*db
AF4:			'obs*db
AG4:			^FEB
AH4:			'obs*db
AI4:			'obs*db
AJ4:			^MAR
AK4:			'obs*db
AL4:			'obs*db

Cell	Width	Format	Contents
AM4:			^APR
A5:	[W4]		'-----
E5:	[W12]		65
F5:			'-----
I5:			'-----
L5:			'-----
O5:			'-----
R5:			'-----
U5:			'-----
X5:			'-----
AA5:			'-----
AD5:			'-----
AG5:			'-----
AJ5:			'-----
AM5:			'-----
A6:	[W4]		120
B6:	[W1]		'/
C6:	[W5]		124
D6:			(A6+C6)/2
E6:	[W12]		@IF(65-D6<0,0,65-D6)
G6:			+\$D6*F6
H6:			+\$E6*F6
J6:			+\$D6*I6
K6:			+\$E6*I6
M6:			+\$D6*L6
N6:			+\$E6*L6
P6:			+\$D6*O6
Q6:			+\$E6*O6
S6:			+\$D6*R6
T6:			+\$E6*R6
V6:			+\$D6*U6
W6:			+\$E6*U6
Y6:			+\$D6*X6
Z6:			+\$E6*X6
AB6:			+\$D6*AA6
AC6:			+\$E6*AA6
AE6:			+\$D6*AD6
AF6:			+\$E6*AD6
AH6:			+\$D6*AG6
AI6:			+\$E6*AG6
AK6:			+\$D6*AJ6
AL6:			+\$E6*AJ6
A7:	[W4]		115
B7:	[W1]		'/
C7:	[W5]		119
D7:			(A7+C7)/2
E7:	[W12]		@IF(65-D7<0,0,65-D7)
G7:			+\$D7*F7
H7:			+\$E7*F7
J7:			+\$D7*I7
K7:			+\$E7*I7
M7:			+\$D7*L7

Cell	Width	Format	Contents
N7:			+\$E7*L7
P7:			+\$D7*O7
Q7:			+\$E7*O7
S7:			+\$D7*R7
T7:			+\$E7*R7
V7:			+\$D7*U7
W7:			+\$E7*U7
Y7:			+\$D7*X7
Z7:			+\$E7*X7
AB7:			+\$D7*AA7
AC7:			+\$E7*AA7
AE7:			+\$D7*AD7
AF7:			+\$E7*AD7
AH7:			+\$D7*AG7
AI7:			+\$E7*AG7
AK7:			+\$D7*AJ7
AL7:			+\$E7*AJ7
A8:	[W4]		110
B8:	[W1]		'/
C8:	[W5]		114
D8:			(A8+C8)/2
E8:	[W12]		@IF(65-D8<0,0,65-D8)
G8:			+\$D8*F8
H8:			+\$E8*F8
J8:			+\$D8*I8
K8:			+\$E8*I8
M8:			+\$D8*L8
N8:			+\$E8*L8
P8:			+\$D8*O8
Q8:			+\$E8*O8
S8:			+\$D8*R8
T8:			+\$E8*R8
V8:			+\$D8*U8
W8:			+\$E8*U8
Y8:			+\$D8*X8
Z8:			+\$E8*X8
AB8:			+\$D8*AA8
AC8:			+\$E8*AA8
AE8:			+\$D8*AD8
AF8:			+\$E8*AD8
AH8:			+\$D8*AG8
AI8:			+\$E8*AG8
AK8:			+\$D8*AJ8
AL8:			+\$E8*AJ8
A9:	[W4]		105
B9:	[W1]		'/
C9:	[W5]		109
D9:			(A9+C9)/2
E9:	[W12]		@IF(65-D9<0,0,65-D9)
G9:			+\$D9*F9
H9:			+\$E9*F9
J9:			+\$D9*I9



<u>Cell</u>	<u>Width</u>	<u>Format</u>	<u>Contents</u>
K9:			+\$E9*I9
M9:			+\$D9*L9
N9:			+\$E9*L9
P9:			+\$D9*O9
Q9:			+\$E9*O9
S9:			+\$D9*R9
T9:			+\$E9*R9
V9:			+\$D9*U9
W9:			+\$E9*U9
Y9:			+\$D9*X9
Z9:			+\$E9*X9
AB9:			+\$D9*AA9
AC9:			+\$E9*AA9
AE9:			+\$D9*AD9
AF9:			+\$E9*AD9
AH9:			+\$D9*AG9
AI9:			+\$E9*AG9
AK9:			+\$D9*AJ9
AL9:			+\$E9*AJ9
A10:	[W4]		100
B10:	[W1]		'/'
C10:	[W5]		104
D10:			(A10+C10)/2
E10:	[W12]		@IF(65-D10<0,0,65-D10)
G10:			+\$D10*F10
H10:			+\$E10*F10
J10:			+\$D10*I10
K10:			+\$E10*I10
M10:			+\$D10*L10
N10:			+\$E10*L10
P10:			+\$D10*O10
Q10:			+\$E10*O10
S10:			+\$D10*R10
T10:			+\$E10*R10
V10:			+\$D10*U10
W10:			+\$E10*U10
Y10:			+\$D10*X10
Z10:			+\$E10*X10
AB10:			+\$D10*AA10
AC10:			+\$E10*AA10
AE10:			+\$D10*AD10
AF10:			+\$E10*AD10
AH10:			+\$D10*AG10
AI10:			+\$E10*AG10
AK10:			+\$D10*AJ10
AL10:			+\$E10*AJ10
A11:	[W4]		95
B11:	[W1]		'/'
C11:	[W5]		99
D11:			(A11+C11)/2
E11:	[W12]		@IF(65-D11<0,0,65-D11)
G11:			+\$D11*F11

Cell	Width	Format	Contents
H11:			+\$E11*F11
J11:			+\$D11*I11
K11:			+\$E11*I11
M11:			+\$D11*L11
N11:			+\$E11*L11
P11:			+\$D11*O11
Q11:			+\$E11*O11
S11:			+\$D11*R11
T11:			+\$E11*R11
V11:			+\$D11*U11
W11:			+\$E11*U11
Y11:			+\$D11*X11
Z11:			+\$E11*X11
AB11:			+\$D11*AA11
AC11:			+\$E11*AA11
AE11:			+\$D11*AD11
AF11:			+\$E11*AD11
AH11:			+\$D11*AG11
AI11:			+\$E11*AG11
AK11:			+\$D11*AJ11
AL11:			+\$E11*AJ11
A12:	[W4]		90
B12:	[W1]		'/
C12:	[W5]		94
D12:			(A12+C12)/2
E12:	[W12]		@IF(65-D12<0,0,65-D12)
G12:			+\$D12*F12
H12:			+\$E12*F12
J12:			+\$D12*I12
K12:			+\$E12*I12
M12:			+\$D12*L12
N12:			+\$E12*L12
P12:			+\$D12*O12
Q12:			+\$E12*O12
S12:			+\$D12*R12
T12:			+\$E12*R12
V12:			+\$D12*U12
W12:			+\$E12*U12
Y12:			+\$D12*X12
Z12:			+\$E12*X12
AB12:			+\$D12*AA12
AC12:			+\$E12*AA12
AE12:			+\$D12*AD12
AF12:			+\$E12*AD12
AH12:			+\$D12*AG12
AI12:			+\$E12*AG12
AK12:			+\$D12*AJ12
AL12:			+\$E12*AJ12
A13:	[W4]		85
B13:	[W1]		'/
C13:	[W5]		89
D13:			(A13+C13)/2

<u>Cell</u>	<u>Width</u>	<u>Format</u>	<u>Contents</u>
E13:	[W12]		@IF(65-D13<0,0,65-D13)
G13:			+\$D13*F13
H13:			+\$E13*F13
J13:			+\$D13*I13
K13:			+\$E13*I13
M13:			+\$D13*L13
N13:			+\$E13*L13
P13:			+\$D13*O13
Q13:			+\$E13*O13
S13:			+\$D13*R13
T13:			+\$E13*R13
V13:			+\$D13*U13
W13:			+\$E13*U13
Y13:			+\$D13*X13
Z13:			+\$E13*X13
AB13:			+\$D13*AA13
AC13:			+\$E13*AA13
AE13:			+\$D13*AD13
AF13:			+\$E13*AD13
AH13:			+\$D13*AG13
AI13:			+\$E13*AG13
AK13:			+\$D13*AJ13
AL13:			+\$E13*AJ13
A14:	[W4]		80
B14:	[W1]		'/'
C14:	[W5]		84
D14:			(A14+C14)/2
E14:	[W12]		@IF(65-D14<0,0,65-D14)
G14:			+\$D14*F14
H14:			+\$E14*F14
J14:			+\$D14*I14
K14:			+\$E14*I14
M14:			+\$D14*L14
N14:			+\$E14*L14
P14:			+\$D14*O14
Q14:			+\$E14*O14
S14:			+\$D14*R14
T14:			+\$E14*R14
V14:			+\$D14*U14
W14:			+\$E14*U14
Y14:			+\$D14*X14
Z14:			+\$E14*X14
AB14:			+\$D14*AA14
AC14:			+\$E14*AA14
AE14:			+\$D14*AD14
AF14:			+\$E14*AD14
AH14:			+\$D14*AG14
AI14:			+\$E14*AG14
AK14:			+\$D14*AJ14
AL14:			+\$E14*AJ14
A15:	[W4]		75
B15:	[W1]		'/'

Cell	Width	Format	Contents
C15:	[W5]		79
D15:			(A15+C15)/2
E15:	[W12]		@IF(65-D15<0,0,65-D15)
G15:			+\$D15*F15
H15:			+\$E15*F15
J15:			+\$D15*I15
K15:			+\$E15*I15
M15:			+\$D15*L15
N15:			+\$E15*L15
P15:			+\$D15*O15
Q15:			+\$E15*O15
S15:			+\$D15*R15
T15:			+\$E15*R15
V15:			+\$D15*U15
W15:			+\$E15*U15
Y15:			+\$D15*X15
Z15:			+\$E15*X15
AB15:			+\$D15*AA15
AC15:			+\$E15*AA15
AE15:			+\$D15*AD15
AF15:			+\$E15*AD15
AH15:			+\$D15*AG15
AI15:			+\$E15*AG15
AK15:			+\$D15*AJ15
AL15:			+\$E15*AJ15
A16:	[W4]		70
B16:	[W1]		'/
C16:	[W5]		74
D16:			(A16+C16)/2
E16:	[W12]		@IF(65-D16<0,0,65-D16)
G16:			+\$D16*F16
H16:			+\$E16*F16
J16:			+\$D16*I16
K16:			+\$E16*I16
M16:			+\$D16*L16
N16:			+\$E16*L16
P16:			+\$D16*O16
Q16:			+\$E16*O16
S16:			+\$D16*R16
T16:			+\$E16*R16
V16:			+\$D16*U16
W16:			+\$E16*U16
Y16:			+\$D16*X16
Z16:			+\$E16*X16
AB16:			+\$D16*AA16
AC16:			+\$E16*AA16
AE16:			+\$D16*AD16
AF16:			+\$E16*AD16
AH16:			+\$D16*AG16
AI16:			+\$E16*AG16
AK16:			+\$D16*AJ16
AL16:			+\$E16*AJ16

Cell	Width	Format	Contents
A17:	[W4]		65
B17:	[W1]		'/'
C17:	[W5]		69
D17:			(A17+C17)/2
E17:	[W12]		@IF(65-D17<0,0,65-D17)
G17:			+\$D17*F17
H17:			+\$E17*F17
J17:			+\$D17*I17
K17:			+\$E17*I17
M17:			+\$D17*L17
N17:			+\$E17*L17
P17:			+\$D17*O17
Q17:			+\$E17*O17
S17:			+\$D17*R17
T17:			+\$E17*R17
V17:			+\$D17*U17
W17:			+\$E17*U17
Y17:			+\$D17*X17
Z17:			+\$E17*X17
AB17:			+\$D17*AA17
AC17:			+\$E17*AA17
AE17:			+\$D17*AD17
AF17:			+\$E17*AD17
AH17:			+\$D17*AG17
AI17:			+\$E17*AG17
AK17:			+\$D17*AJ17
AL17:			+\$E17*AJ17
A18:	[W4]		60
B18:	[W1]		'/'
C18:	[W5]		64
D18:			(A18+C18)/2
E18:	[W12]		@IF(65-D18<0,0,65-D18)
G18:			+\$D18*F18
H18:			+\$E18*F18
J18:			+\$D18*I18
K18:			+\$E18*I18
M18:			+\$D18*L18
N18:			+\$E18*L18
P18:			+\$D18*O18
Q18:			+\$E18*O18
S18:			+\$D18*R18
T18:			+\$E18*R18
V18:			+\$D18*U18
W18:			+\$E18*U18
Y18:			+\$D18*X18
Z18:			+\$E18*X18
AB18:			+\$D18*AA18
AC18:			+\$E18*AA18
AE18:			+\$D18*AD18
AF18:			+\$E18*AD18
AH18:			+\$D18*AG18
AI18:			+\$E18*AG18

Cell	Width	Format	Contents
AK18:			+\$D18*AJ18
AL18:			+\$E18*AJ18
A19:	[W4]		55
B19:	[W1]		' /
C19:	[W5]		59
D19:			(A19+C19)/2
E19:	[W12]		@IF(65-D19<0,0,65-D19)
G19:			+\$D19*F19
H19:			+\$E19*F19
J19:			+\$D19*I19
K19:			+\$E19*I19
M19:			+\$D19*L19
N19:			+\$E19*L19
P19:			+\$D19*O19
Q19:			+\$E19*O19
S19:			+\$D19*R19
T19:			+\$E19*R19
V19:			+\$D19*U19
W19:			+\$E19*U19
Y19:			+\$D19*X19
Z19:			+\$E19*X19
AB19:			+\$D19*AA19
AC19:			+\$E19*AA19
AE19:			+\$D19*AD19
AF19:			+\$E19*AD19
AH19:			+\$D19*AG19
AI19:			+\$E19*AG19
AK19:			+\$D19*AJ19
AL19:			+\$E19*AJ19
A20:	[W4]		50
B20:	[W1]		' /
C20:	[W5]		54
D20:			(A20+C20)/2
E20:	[W12]		@IF(65-D20<0,0,65-D20)
G20:			+\$D20*F20
H20:			+\$E20*F20
J20:			+\$D20*I20
K20:			+\$E20*I20
M20:			+\$D20*L20
N20:			+\$E20*L20
P20:			+\$D20*O20
Q20:			+\$E20*O20
S20:			+\$D20*R20
T20:			+\$E20*R20
V20:			+\$D20*U20
W20:			+\$E20*U20
Y20:			+\$D20*X20
Z20:			+\$E20*X20
AB20:			+\$D20*AA20
AC20:			+\$E20*AA20
AE20:			+\$D20*AD20
AF20:			+\$E20*AD20

Cell	Width	Format	Contents
AH20:			+\$D20*AG20
AI20:			+\$E20*AG20
AK20:			+\$D20*AJ20
AL20:			+\$E20*AJ20
A21:	[W4]		45
B21:	[W1]		'/
C21:	[W5]		49
D21:			(A21+C21)/2
E21:	[W12]		@IF(65-D21<0,0,65-D21)
G21:			+\$D21*F21
H21:			+\$E21*F21
J21:			+\$D21*I21
K21:			+\$E21*I21
M21:			+\$D21*L21
N21:			+\$E21*L21
P21:			+\$D21*O21
Q21:			+\$E21*O21
S21:			+\$D21*R21
T21:			+\$E21*R21
V21:			+\$D21*U21
W21:			+\$E21*U21
Y21:			+\$D21*X21
Z21:			+\$E21*X21
AB21:			+\$D21*AA21
AC21:			+\$E21*AA21
AE21:			+\$D21*AD21
AF21:			+\$E21*AD21
AH21:			+\$D21*AG21
AI21:			+\$E21*AG21
AK21:			+\$D21*AJ21
AL21:			+\$E21*AJ21
A22:	[W4]		40
B22:	[W1]		'/
C22:	[W5]		44
D22:			(A22+C22)/2
E22:	[W12]		@IF(65-D22<0,0,65-D22)
G22:			+\$D22*F22
H22:			+\$E22*F22
J22:			+\$D22*I22
K22:			+\$E22*I22
M22:			+\$D22*L22
N22:			+\$E22*L22
P22:			+\$D22*O22
Q22:			+\$E22*O22
S22:			+\$D22*R22
T22:			+\$E22*R22
V22:			+\$D22*U22
W22:			+\$E22*U22
Y22:			+\$D22*X22
Z22:			+\$E22*X22
AB22:			+\$D22*AA22
AC22:			+\$E22*AA22

Cell	Width	Format	Contents
AE22:			+\$D22*AD22
AF22:			+\$E22*AD22
AH22:			+\$D22*AG22
AI22:			+\$E22*AG22
AK22:			+\$D22*AJ22
AL22:			+\$E22*AJ22
A23:	[W4]		35
B23:	[W1]		' /
C23:	[W5]		39
D23:			(A23+C23)/2
E23:	[W12]		@IF(65-D23<0,0,65-D23)
G23:			+\$D23*F23
H23:			+\$E23*F23
J23:			+\$D23*I23
K23:			+\$E23*I23
M23:			+\$D23*L23
N23:			+\$E23*L23
P23:			+\$D23*O23
Q23:			+\$E23*O23
S23:			+\$D23*R23
T23:			+\$E23*R23
V23:			+\$D23*U23
W23:			+\$E23*U23
Y23:			+\$D23*X23
Z23:			+\$E23*X23
AB23:			+\$D23*AA23
AC23:			+\$E23*AA23
AE23:			+\$D23*AD23
AF23:			+\$E23*AD23
AH23:			+\$D23*AG23
AI23:			+\$E23*AG23
AK23:			+\$D23*AJ23
AL23:			+\$E23*AJ23
A24:	[W4]		30
B24:	[W1]		' /
C24:	[W5]		34
D24:			(A24+C24)/2
E24:	[W12]		@IF(65-D24<0,0,65-D24)
G24:			+\$D24*F24
H24:			+\$E24*F24
J24:			+\$D24*I24
K24:			+\$E24*I24
M24:			+\$D24*L24
N24:			+\$E24*L24
P24:			+\$D24*O24
Q24:			+\$E24*O24
S24:			+\$D24*R24
T24:			+\$E24*R24
V24:			+\$D24*U24
W24:			+\$E24*U24
Y24:			+\$D24*X24
Z24:			+\$E24*X24



Cell	Width	Format	Contents
AB24:			+\$D24*AA24
AC24:			+\$E24*AA24
AE24:			+\$D24*AD24
AF24:			+\$E24*AD24
AH24:			+\$D24*AG24
AI24:			+\$E24*AG24
AK24:			+\$D24*AJ24
AL24:			+\$E24*AJ24
A25:	[W4]		25
B25:	[W1]		'/
C25:	[W5]		29
D25:			(A25+C25)/2
E25:	[W12]		@IF(65-D25<0,0,65-D25)
G25:			+\$D25*F25
H25:			+\$E25*F25
J25:			+\$D25*I25
K25:			+\$E25*I25
M25:			+\$D25*L25
N25:			+\$E25*L25
P25:			+\$D25*O25
Q25:			+\$E25*O25
S25:			+\$D25*R25
T25:			+\$E25*R25
V25:			+\$D25*U25
W25:			+\$E25*U25
Y25:			+\$D25*X25
Z25:			+\$E25*X25
AB25:			+\$D25*AA25
AC25:			+\$E25*AA25
AE25:			+\$D25*AD25
AF25:			+\$E25*AD25
AH25:			+\$D25*AG25
AI25:			+\$E25*AG25
AK25:			+\$D25*AJ25
AL25:			+\$E25*AJ25
A26:	[W4]		20
B26:	[W1]		'/
C26:	[W5]		24
D26:			(A26+C26)/2
E26:	[W12]		@IF(65-D26<0,0,65-D26)
G26:			+\$D26*F26
H26:			+\$E26*F26
J26:			+\$D26*I26
K26:			+\$E26*I26
M26:			+\$D26*L26
N26:			+\$E26*L26
P26:			+\$D26*O26
Q26:			+\$E26*O26
S26:			+\$D26*R26
T26:			+\$E26*R26
V26:			+\$D26*U26
W26:			+\$E26*U26

Cell	Width	Format	Contents
Y26:			+\$D26*X26
Z26:			+\$E26*X26
AB26:			+\$D26*AA26
AC26:			+\$E26*AA26
AE26:			+\$D26*AD26
AF26:			+\$E26*AD26
AH26:			+\$D26*AG26
AI26:			+\$E26*AG26
AK26:			+\$D26*AJ26
AL26:			+\$E26*AJ26
A27:	[W4]		15
B27:	[W1]		' /
C27:	[W5]		19
D27:			(A27+C27)/2
E27:	[W12]		@IF(65-D27<0,0,65-D27)
G27:			+\$D27*F27
H27:			+\$E27*F27
J27:			+\$D27*I27
K27:			+\$E27*I27
M27:			+\$D27*L27
N27:			+\$E27*L27
P27:			+\$D27*O27
Q27:			+\$E27*O27
S27:			+\$D27*R27
T27:			+\$E27*R27
V27:			+\$D27*U27
W27:			+\$E27*U27
Y27:			+\$D27*X27
Z27:			+\$E27*X27
AB27:			+\$D27*AA27
AC27:			+\$E27*AA27
AE27:			+\$D27*AD27
AF27:			+\$E27*AD27
AH27:			+\$D27*AG27
AI27:			+\$E27*AG27
AK27:			+\$D27*AJ27
AL27:			+\$E27*AJ27
A28:	[W4]		10
B28:	[W1]		' /
C28:	[W5]		14
D28:			(A28+C28)/2
E28:	[W12]		@IF(65-D28<0,0,65-D28)
G28:			+\$D28*F28
H28:			+\$E28*F28
J28:			+\$D28*I28
K28:			+\$E28*I28
M28:			+\$D28*L28
N28:			+\$E28*L28
P28:			+\$D28*O28
Q28:			+\$E28*O28
S28:			+\$D28*R28
T28:			+\$E28*R28

Cell	Width	Format	Contents
V28:			+\$D28*U28
W28:			+\$E28*U28
Y28:			+\$D28*X28
Z28:			+\$E28*X28
AB28:			+\$D28*AA28
AC28:			+\$E28*AA28
AE28:			+\$D28*AD28
AF28:			+\$E28*AD28
AH28:			+\$D28*AG28
AI28:			+\$E28*AG28
AK28:			+\$D28*AJ28
AL28:			+\$E28*AJ28
A29:	[W4]		5
B29:	[W1]		'/
C29:	[W5]		9
D29:			(A29+C29)/2
E29:	[W12]		@IF(65-D29<0,0,65-D29)
G29:			+\$D29*F29
H29:			+\$E29*F29
J29:			+\$D29*I29
K29:			+\$E29*I29
M29:			+\$D29*L29
N29:			+\$E29*L29
P29:			+\$D29*O29
Q29:			+\$E29*O29
S29:			+\$D29*R29
T29:			+\$E29*R29
V29:			+\$D29*U29
W29:			+\$E29*U29
Y29:			+\$D29*X29
Z29:			+\$E29*X29
AB29:			+\$D29*AA29
AC29:			+\$E29*AA29
AE29:			+\$D29*AD29
AF29:			+\$E29*AD29
AH29:			+\$D29*AG29
AI29:			+\$E29*AG29
AK29:			+\$D29*AJ29
AL29:			+\$E29*AJ29
A30:	[W4]		0
B30:	[W1]		'/
C30:	[W5]		4
D30:			(A30+C30)/2
E30:	[W12]		@IF(65-D30<0,0,65-D30)
G30:			+\$D30*F30
H30:			+\$E30*F30
J30:			+\$D30*I30
K30:			+\$E30*I30
M30:			+\$D30*L30
N30:			+\$E30*L30
P30:			+\$D30*O30
Q30:			+\$E30*O30

Cell	Width	Format	Contents
S30:			+\$D30*R30
T30:			+\$E30*R30
V30:			+\$D30*U30
W30:			+\$E30*U30
Y30:			+\$D30*X30
Z30:			+\$E30*X30
AB30:			+\$D30*AA30
AC30:			+\$E30*AA30
AE30:			+\$D30*AD30
AF30:			+\$E30*AD30
AH30:			+\$D30*AG30
AI30:			+\$E30*AG30
AK30:			+\$D30*AJ30
AL30:			+\$E30*AJ30
A31:	[W4]		-5
B31:	[W1]		'/'
C31:	[W5]		-1
D31:			(A31+C31)/2
E31:	[W12]		@IF(65-D31<0,0,65-D31)
G31:			+\$D31*F31
H31:			+\$E31*F31
J31:			+\$D31*I31
K31:			+\$E31*I31
M31:			+\$D31*L31
N31:			+\$E31*L31
P31:			+\$D31*O31
Q31:			+\$E31*O31
S31:			+\$D31*R31
T31:			+\$E31*R31
V31:			+\$D31*U31
W31:			+\$E31*U31
Y31:			+\$D31*X31
Z31:			+\$E31*X31
AB31:			+\$D31*AA31
AC31:			+\$E31*AA31
AE31:			+\$D31*AD31
AF31:			+\$E31*AD31
AH31:			+\$D31*AG31
AI31:			+\$E31*AG31
AK31:			+\$D31*AJ31
AL31:			+\$E31*AJ31
A32:	[W4]		-10
B32:	[W1]		'/'
C32:	[W5]		-6
D32:			(A32+C32)/2
E32:	[W12]		@IF(65-D32<0,0,65-D32)
G32:			+\$D32*F32
H32:			+\$E32*F32
J32:			+\$D32*I32
K32:			+\$E32*I32
M32:			+\$D32*L32
N32:			+\$E32*L32

Cell	Width	Format	Contents
P32:			+\$D32*O32
Q32:			+\$E32*O32
S32:			+\$D32*R32
T32:			+\$E32*R32
V32:			+\$D32*U32
W32:			+\$E32*U32
Y32:			+\$D32*X32
Z32:			+\$E32*X32
AB32:			+\$D32*AA32
AC32:			+\$E32*AA32
AE32:			+\$D32*AD32
AF32:			+\$E32*AD32
AH32:			+\$D32*AG32
AI32:			+\$E32*AG32
AK32:			+\$D32*AJ32
AL32:			+\$E32*AJ32
A33:	[W4]		-15
B33:	[W1]		'/'
C33:	[W5]		-11
D33:			(A33+C33)/2
E33:	[W12]		@IF(65-D33<0,0,65-D33)
G33:			+\$D33*F33
H33:			+\$E33*F33
J33:			+\$D33*I33
K33:			+\$E33*I33
M33:			+\$D33*L33
N33:			+\$E33*L33
P33:			+\$D33*O33
Q33:			+\$E33*O33
S33:			+\$D33*R33
T33:			+\$E33*R33
V33:			+\$D33*U33
W33:			+\$E33*U33
Y33:			+\$D33*X33
Z33:			+\$E33*X33
AB33:			+\$D33*AA33
AC33:			+\$E33*AA33
AE33:			+\$D33*AD33
AF33:			+\$E33*AD33
AH33:			+\$D33*AG33
AI33:			+\$E33*AG33
AK33:			+\$D33*AJ33
AL33:			+\$E33*AJ33
A34:	[W4]		-20
B34:	[W1]		'/'
C34:	[W5]		-16
D34:			(A34+C34)/2
E34:	[W12]		@IF(65-D34<0,0,65-D34)
G34:			+\$D34*F34
H34:			+\$E34*F34
J34:			+\$D34*I34
K34:			+\$E34*I34

Cell	Width	Format	Contents
M34:			+\$D34*L34
N34:			+\$E34*L34
P34:			+\$D34*O34
Q34:			+\$E34*O34
S34:			+\$D34*R34
T34:			+\$E34*R34
V34:			+\$D34*U34
W34:			+\$E34*U34
Y34:			+\$D34*X34
Z34:			+\$E34*X34
AB34:			+\$D34*AA34
AC34:			+\$E34*AA34
AE34:			+\$D34*AD34
AF34:			+\$E34*AD34
AH34:			+\$D34*AG34
AI34:			+\$E34*AG34
AK34:			+\$D34*AJ34
AL34:			+\$E34*AJ34
A35:	[W4]		-25
B35:	[W1]		'/'
C35:	[W5]		-21
D35:			(A35+C35)/2
E35:	[W12]		@IF(65-D35<0,0,65-D35)
G35:			+\$D35*F35
H35:			+\$E35*F35
J35:			+\$D35*I35
K35:			+\$E35*I35
M35:			+\$D35*L35
N35:			+\$E35*L35
P35:			+\$D35*O35
Q35:			+\$E35*O35
S35:			+\$D35*R35
T35:			+\$E35*R35
V35:			+\$D35*U35
W35:			+\$E35*U35
Y35:			+\$D35*X35
Z35:			+\$E35*X35
AB35:			+\$D35*AA35
AC35:			+\$E35*AA35
AE35:			+\$D35*AD35
AF35:			+\$E35*AD35
AH35:			+\$D35*AG35
AI35:			+\$E35*AG35
AK35:			+\$D35*AJ35
AL35:			+\$E35*AJ35
A36:	[W4]		-30
B36:	[W1]		'/'
C36:	[W5]		-26
D36:			(A36+C36)/2
E36:	[W12]		@IF(65-D36<0,0,65-D36)
G36:			+\$D36*F36
H36:			+\$E36*F36

Cell	Width	Format	Contents
J36:			+\$D36*I36
K36:			+\$E36*I36
M36:			+\$D36*L36
N36:			+\$E36*L36
P36:			+\$D36*O36
Q36:			+\$E36*O36
S36:			+\$D36*R36
T36:			+\$E36*R36
V36:			+\$D36*U36
W36:			+\$E36*U36
Y36:			+\$D36*X36
Z36:			+\$E36*X36
AB36:			+\$D36*AA36
AC36:			+\$E36*AA36
AE36:			+\$D36*AD36
AF36:			+\$E36*AD36
AH36:			+\$D36*AG36
AI36:			+\$E36*AG36
AK36:			+\$D36*AJ36
AL36:			+\$E36*AJ36
A37:	[W4]		-35
B37:	[W1]		'/'
C37:	[W5]		-31
D37:			(A37+C37)/2
E37:	[W12]		@IF(65-D37<0,0,65-D37)
G37:			+\$D37*F37
H37:			+\$E37*F37
J37:			+\$D37*I37
K37:			+\$E37*I37
M37:			+\$D37*L37
N37:			+\$E37*L37
P37:			+\$D37*O37
Q37:			+\$E37*O37
S37:			+\$D37*R37
T37:			+\$E37*R37
V37:			+\$D37*U37
W37:			+\$E37*U37
Y37:			+\$D37*X37
Z37:			+\$E37*X37
AB37:			+\$D37*AA37
AC37:			+\$E37*AA37
AE37:			+\$D37*AD37
AF37:			+\$E37*AD37
AH37:			+\$D37*AG37
AI37:			+\$E37*AG37
AK37:			+\$D37*AJ37
AL37:			+\$E37*AJ37
F38:			'-----
G38:			'-----
H38:			'-----
I38:			'-----
J38:			'-----

Cell	Width	Format	Contents
K38:			'-----
L38:			'-----
M38:			'-----
N38:			'-----
O38:			'-----
P38:			'-----
Q38:			'-----
R38:			'-----
S38:			'-----
T38:			'-----
U38:			'-----
V38:			'-----
W38:			'-----
X38:			'-----
Y38:			'-----
Z38:			'-----
AA38:			'-----
AB38:			'-----
AC38:			'-----
AD38:			'-----
AE38:			'-----
AF38:			'-----
AG38:			'-----
AH38:			'-----
AI38:			'-----
AJ38:			'-----
AK38:			'-----
AL38:			'-----
AM38:			'-----
A39:	[W4]		' Total cnt
F39:			@SUM(F6..F37)
I39:			@SUM(I6..I37)
L39:			@SUM(L6..L37)
O39:			@SUM(O6..O37)
R39:			@SUM(R6..R37)
U39:			@SUM(U6..U37)
X39:			@SUM(X6..X37)
AA39:			@SUM(AA6..AA37)
AD39:			@SUM(AD6..AD37)
AG39:			@SUM(AG6..AG37)
AJ39:			@SUM(AJ6..AJ37)
AM39:			@SUM(AM6..AM37)
A40:	[W4]		' Avg temp
F40:		(F0)	@SUM(G6..G37)/F39
I40:		(F0)	@SUM(J6..J37)/I39
L40:		(F0)	@SUM(M6..M37)/L39
O40:		(F0)	@SUM(P6..P37)/O39
R40:		(F0)	@SUM(S6..S37)/R39
U40:		(F0)	@SUM(V6..V37)/U39
X40:		(F0)	@SUM(Y6..Y37)/X39
AA40:		(F0)	@SUM(AB6..AB37)/AA39
AD40:		(F0)	@SUM(AE6..AE37)/AD39



<u>Cell</u>	<u>Width</u>	<u>Format</u>	<u>Contents</u>
AG40:		(F0)	@SUM(AH6..AH37)/AG39
AJ40:		(F0)	@SUM(AK6..AK37)/AJ39
AM40:		(F0)	@SUM(AN6..AN37)/AM39
A41:	[W4]		'Htg Dg Day
E41:	[W12]		@SUM(G41,J41,M41,P41,S41,V41,Y41,AB41,AE41,AH41,AK41,AN41)
F41:		(F0)	+G41*\$F\$43/\$E\$41
G41:		(F0)	@SUM(H6..H37)
I41:		(F0)	+J41*\$F\$43/\$E\$41
J41:		(F0)	@SUM(K6..K37)
L41:		(F0)	+M41*\$F\$43/\$E\$41
M41:		(F0)	@SUM(N6..N37)
O41:		(F0)	+P41*\$F\$43/\$E\$41
P41:		(F0)	@SUM(Q6..Q37)
R41:		(F0)	+S41*\$F\$43/\$E\$41
S41:		(F0)	@SUM(T6..T37)
U41:		(F0)	+V41*\$F\$43/\$E\$41
V41:		(F0)	@SUM(W6..W37)
X41:		(F0)	+Y41*\$F\$43/\$E\$41
Y41:		(F0)	@SUM(Z6..Z37)
AA41:		(F0)	+AB41*\$F\$43/\$E\$41
AB41:		(F0)	@SUM(AC6..AC37)
AD41:		(F0)	+AE41*\$F\$43/\$E\$41
AE41:		(F0)	@SUM(AF6..AF37)
AG41:		(F0)	+AH41*\$F\$43/\$E\$41
AH41:		(F0)	@SUM(AI6..AI37)
AJ41:		(F0)	+AK41*\$F\$43/\$E\$41
AK41:		(F0)	@SUM(AL6..AL37)
AM41:		(F0)	+AN41*\$F\$43/\$E\$41
A43:	[W4]		'Ann HDD
L43:			,
O43:			' Base :
A44:	[W4]		'Ann Avg
F44:		(F0)	(F39*F40+I39*I40+L39*L40+O39*O40+R39*R40+U39*U40+X39*X40+AA39*AA40+AD39*AD40+AG39*AG40+AJ39*AJ40+AM39*AM40)/(F39+I39+L39+O39+R39+U39+X39+AA39+AD39+AG39+AJ39+AM39)

## **Appendix B: Program Listing**

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 16:07:33

Pg 1  
of 6  
1-50

```
*****
*- CHKSTAT2.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*- written for CERL
*****
*- attempt to decipher state entry, detailed analysis
*****
*

* convert state entry to upper case, set up length and flag
st=UPPER(LTRIM(TRIM(st)))
stln=LEN(st)
stlst=""
stn=""
ok=.f.

* if entry is two characters,
* check to see if it is proper state abbreviation
+---IF stln=2
|   DO idstate
+---ENDIF

* if state found, stlst has name, routine can return from here
+---IF LEN(stlst)>0
|   stn=st
|   ok=.t.
|   RETURN
+---ENDIF

* if length is 0 (no entry), set name to special code
+---IF stln=0
|   stlst="--,--"
|   ok=.t.
+---ENDIF

* if nothing has been found, try matching
* first letters of entry with state names
+---DO WHILE .NOT. ok
|
|   +---IF 'ALABAMA'=st
|   |   stlst=stlst+', Alabama'
|   |   stn='AL'
|   +---ENDIF
|   +---IF 'ALASKA'=st
|   |   stlst=stlst+', Alaska'
|   |   stn='AK'
|   +---ENDIF
|   +---IF 'ARKANSAS'=st
|   |   stlst=stlst+', Arkansas'
```

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 16:07:33

Pg 2  
of 6  
51-100

```
|      stn='AR'  
|  +---ENDIF  
|  +---IF 'ARIZONA'=st  
|      stlst=stlst+', Arizona'  
|      stn='AZ'  
|  +---ENDIF  
|  +---IF 'CALIFORNIA'=st  
|      stlst=stlst+', California'  
|      stn='CA'  
|  +---ENDIF  
|  +---IF 'COLORADO'=st  
|      stlst=stlst+', Colorado'  
|      stn='CO'  
|  +---ENDIF  
|  +---IF 'CONNECTICUT'=st  
|      stlst=stlst+', Connecticut'  
|      stn='CT'  
|  +---ENDIF  
|  +---IF 'DELAWARE'=st  
|      stlst=stlst+', Delaware'  
|      stn='DE'  
|  +---ENDIF  
|  +---IF 'DISTRICT OF COLUMBIA'=st  
|      stlst=stlst+', District of Columbia'  
|      stn='DC'  
|  +---ENDIF  
|  +---IF 'FLORIDA'=st  
|      stlst=stlst+', Florida'  
|      stn='FL'  
|  +---ENDIF  
|  +---IF 'GEORGIA'=st  
|      stlst=stlst+', Georgia'  
|      stn='GA'  
|  +---ENDIF  
|  +---IF 'HAWAII'=st  
|      stlst=stlst+', Hawaii'  
|      stn='HI'  
|  +---ENDIF  
|  +---IF 'IDAHO'=st  
|      stlst=stlst+', Idaho'  
|      stn='ID'  
|  +---ENDIF  
|  +---IF 'ILLINOIS'=st  
|      stlst=stlst+', Illinois'  
|      stn='IL'  
|  +---ENDIF  
|  +---IF 'INDIANA'=st  
|      stlst=stlst+', Indiana'  
|      stn='IN'  
|  +---ENDIF
```

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 16:07:33

Pg 3  
of 6  
101-150

```
|  +---IF 'IOWA'=st
|  |      stlst=stlst+', Iowa'
|  |      stn='IA'
|  +---ENDIF
|  +---IF 'KANSAS'=st
|  |      stlst=stlst+', Kansas'
|  |      stn='KS'
|  +---ENDIF
|  +---IF 'KENTUCKY'=st
|  |      stlst=stlst+', Kentucky'
|  |      stn='KY'
|  +---ENDIF
|  +---IF 'LOUISIANA'=st
|  |      stlst=stlst+', Louisiana'
|  |      stn='LA'
|  +---ENDIF
|  +---IF 'MAINE'=st
|  |      stlst=stlst+', Maine'
|  |      stn='ME'
|  +---ENDIF
|  +---IF 'MARYLAND'=st
|  |      stlst=stlst+', Maryland'
|  |      stn='MD'
|  +---ENDIF
|  +---IF 'MASSACHUSETTS'=st
|  |      stlst=stlst+', Massachusetts'
|  |      stn='MA'
|  +---ENDIF
|  +---IF 'MICHIGAN'=st
|  |      stlst=stlst+', Michigan'
|  |      stn='MI'
|  +---ENDIF
|  +---IF 'MINNESOTA'=st
|  |      stlst=stlst+', Minnesota'
|  |      stn='MN'
|  +---ENDIF
|  +---IF 'MISSISSIPPI'=st
|  |      stlst=stlst+', Mississippi'
|  |      stn='MS'
|  +---ENDIF
|  +---IF 'MISSOURI'=st
|  |      stlst=stlst+', Missouri'
|  |      stn='MO'
|  +---ENDIF
|  +---IF 'MONTANA'=st
|  |      stlst=stlst+', Montana'
|  |      stn='MT'
|  +---ENDIF
|  +---IF 'NEBRASKA'=st
|  |      stlst=stlst+', Nebraska'
```

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 16:07:33

Pg 4  
of 6  
151-200

```
|      stn='NE'  
|  +---ENDIF  
|  +---IF 'NEVADA'=st  
|      stlst=stlst+', Nevada'  
|      stn='NV'  
|  +---ENDIF  
|  +---IF 'NEW HAMPSHIRE'=st  
|      stlst=stlst+', New Hampshire'  
|      stn='NH'  
|  +---ENDIF  
|  +---IF 'NEW JERSEY'=st  
|      stlst=stlst+', New Jersey'  
|      stn='NJ'  
|  +---ENDIF  
|  +---IF 'NEW MEXICO'=st  
|      stlst=stlst+', New Mexico'  
|      stn='NM'  
|  +---ENDIF  
|  +---IF 'NEW YORK'=st  
|      stlst=stlst+', New York'  
|      stn='NY'  
|  +---ENDIF  
|  +---IF 'NORTH CAROLINA'=st  
|      stlst=stlst+', North Carolina'  
|      stn='NC'  
|  +---ENDIF  
|  +---IF 'NORTH DAKOTA'=st  
|      stlst=stlst+', North Dakota'  
|      stn='ND'  
|  +---ENDIF  
|  +---IF 'OHIO'=st  
|      stlst=stlst+', Ohio'  
|      stn='OH'  
|  +---ENDIF  
|  +---IF 'OKLAHOMA'=st  
|      stlst=stlst+', Oklahoma'  
|      stn='OK'  
|  +---ENDIF  
|  +---IF 'OREGON'=st  
|      stlst=stlst+', Oregon'  
|      stn='OR'  
|  +---ENDIF  
|  +---IF 'PENNSYLVANIA'=st  
|      stlst=stlst+', Pennsylvania'  
|      stn='PA'  
|  +---ENDIF  
|  +---IF 'RHODE ISLAND'=st  
|      stlst=stlst+', Rhode Island'  
|      stn='RI'  
|  +---ENDIF
```

```
| +---IF 'SOUTH CAROLINA'=st
| |       stlst=stlst+', South Carolina'
| |       stn='SC'
| +---ENDIF
| +---IF 'SOUTH DAKOTA'=st
| |       stlst=stlst+', South Dakota'
| |       stn='SD'
| +---ENDIF
| +---IF 'TEXAS'=st
| |       stlst=stlst+', Texas'
| |       stn='TX'
| +---ENDIF
| +---IF 'TENNESSEE'=st
| |       stlst=stlst+', Tennessee'
| |       stn='TN'
| +---ENDIF
| +---IF 'UNITED STATES'=st
| |       stlst=stlst+', United States'
| |       stn='US'
| +---ENDIF
| +---IF 'UTAH'=st
| |       stlst=stlst+', Utah'
| |       stn='UT'
| +---ENDIF
| +---IF 'VERMONT'=st
| |       stlst=stlst+', Vermont'
| |       stn='VT'
| +---ENDIF
| +---IF 'VIRGINIA'=st
| |       stlst=stlst+', Virginia'
| |       stn='VA'
| +---ENDIF
| +---IF 'WASHINGTON'=st
| |       stlst=stlst+', Washington'
| |       stn='WA'
| +---ENDIF
| +---IF 'WEST VIRGINIA'=st
| |       stlst=stlst+', West Virginia'
| |       stn='WV'
| +---ENDIF
| +---IF 'WISCONSIN'=st
| |       stlst=stlst+', Wisconsin'
| |       stn='WI'
| +---ENDIF
| +---IF 'WYOMING'=st
| |       stlst=stlst+', Wyoming'
| |       stn='WY'
| +---ENDIF
|
| * if stlst is empty, take off last character of entry to see if it matches
```

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 16:07:33

Pg 6  
of 6  
251-273

```
|  +---IF LEN(stlst)=0
|  |      st=SUBSTR(st,1,LEN(st)-1)
|  |      stln=LEN(st)
|  |
|  * if all entry characters removed, set special code, and exit do-while
|  |  +---IF stln=0
|  |  |      ok=.t.
|  |  |      stlst="--,--"
|  |  +---ENDIF
|  |
|  * if stlst has possible names, set ok to true (for ok to leave do-while)
|  +---ELSE
|  |      ok=.t.
|  +---ENDIF
|
|  * end of search for possible matches with state names
+---ENDDO

|  * strip off first two characters to eliminate leading
|  stlst=SUBSTR(stlst,3)
|  st=stn
|
|  RETURN
```



01-11-89 15:00:00 CHKSTATE.PRG  
Wed 01-11-89 16:06:12

Pg 1  
of 1  
1-39

```
*****
*- CHKSTATE.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*- written for CERL
*****
*- attempt to decipher state entry
*****
*
stn=""
DO chkstat2

* if ', ' is found in list, more than one state name is present
* need to print additional help message
+--IF AT(", ", stlst)>0
|   st=""
|   ok=.f.
|   @ 23,1 CLEAR TO 24,78
|
|   * if special code found, then say that no match found
|   +--IF stlst=","
|   |   @ 23,2 SAY "No match found for the name"
|   |   @ 24,2 SAY "Please check your spelling"
|   |
|   * if regular names are present, display them as possible matches
|   +--ELSE
|   |   @ 23,2 SAY "Enter the name more completely. Possible matches are:"
|   |   @ 24,2 SAY SUBSTR(stlst,1,76)
|   |
|   +--ENDIF
|
|   * stlst contains only one state name, so it must be a match
+--ELSE
|   * set st to value found when matching entry
|   st=stn
+--ENDIF

* return to called routine
RETURN
```

01-11-89 15:00:00 DBENVRN.PRG  
Wed 01-11-89 16:06:22

Pg 1  
of 1  
1-40

```
*****
* DBENVRN.PRG -- Last update 01/11/89
* Copyright (C) 1988,1989 -- John A. Kinast
* All Rights Reserved
*****
* define database environment for the system
*****
*
PUBLIC fox, clipper, ending

* define ending of index files based on operating environment
ending=""

* fox is .t. if run under FoxBASE+, otherwise .f.
+--IF fox
|   ending=".IDX"
+--ENDIF

* clipper is .t. if run under Clipper, otherwise .f.
+--IF clipper
|
| * function returns index file ending based on how program has been linked.
| * returns ".NDX" if ndx.obj was linked to produce dBASE III+
| * compatible index files
| * returns ".NTX" if ndx.obj not linked, which results in standard
| * Clipper index files
|   ending=indexext()
|
| * readexit function with .t. as parameter sets Clipper to use
| * up-arrow and down-arrow keys to exit from variable READS
|   c=readexit(.t.)
+--ENDIF

* if nothing was assigned by other two routines, it must be running
* under dBASE III+, meaning ".NDX" (standard index) files used
+--IF LEN(ending)=0
|   ending=".NDX"
+--ENDIF

RETURN
```

01-11-89 15:00:00 IDSTATE.PRG  
Wed 01-11-89 16:05:08

Pg 1  
of 3  
1-50

```
*****
*- IDSTATE.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*- written for CERL
*****
*- using st, get state name
*****
*
```

```
* convert state entry to upper case, set up length and flag
st=UPPER(LTRIM(TRIM(st)))
stlst=""
```

```
+--DO CASE
```

```
| CASE st='AL'
|   stlst='Alabama'
| CASE st='AK'
|   stlst='Alaska'
| CASE st='AR'
|   stlst='Arkansas'
| CASE st='AZ'
|   stlst='Arizona'
| CASE st='CA'
|   stlst='California'
| CASE st='CO'
|   stlst='Colorado'
| CASE st='CT'
|   stlst='Connecticut'
| CASE st='DC'
|   stlst='District of Columbia'
| CASE st='DE'
|   stlst='Delaware'
| CASE st='FL'
|   stlst='Florida'
| CASE st='GA'
|   stlst='Georgia'
| CASE st='HI'
|   stlst='Hawaii'
| CASE st='ID'
|   stlst='Idaho'
| CASE st='IL'
|   stlst='Illinois'
| CASE st='IN'
|   stlst='Indiana'
| CASE st='IA'
|   stlst='Iowa'
| CASE st='KS'
|   stlst='Kansas'
| CASE st='KY'
|   stlst='Kentucky'
```

01-11-89 15:00:00 IDSTATE.PRG  
Wed 01-11-89 16:05:08

Pg 2  
of 3  
51-100

```
| CASE st='LA'  
|   stlst='Louisiana'  
| CASE st='ME'  
|   stlst='Maine'  
| CASE st='MD'  
|   stlst='Maryland'  
| CASE st='MA'  
|   stlst='Massachusetts'  
| CASE st='MI'  
|   stlst='Michigan'  
| CASE st='MN'  
|   stlst='Minnesota'  
| CASE st='MS'  
|   stlst='Mississippi'  
| CASE st='MO'  
|   stlst='Missouri'  
| CASE st='MT'  
|   stlst='Montana'  
| CASE st='NE'  
|   stlst='Nebraska'  
| CASE st='NV'  
|   stlst='Nevada'  
| CASE st='NH'  
|   stlst='New Hampshire'  
| CASE st='NJ'  
|   stlst='New Jersey'  
| CASE st='NM'  
|   stlst='New Mexico'  
| CASE st='NY'  
|   stlst='New York'  
| CASE st='NC'  
|   stlst='North Carolina'  
| CASE st='ND'  
|   stlst='North Dakota'  
| CASE st='OH'  
|   stlst='Ohio'  
| CASE st='OK'  
|   stlst='Oklahoma'  
| CASE st='OR'  
|   stlst='Oregon'  
| CASE st='PA'  
|   stlst='Pennsylvania'  
| CASE st='RI'  
|   stlst='Rhode Island'  
| CASE st='SC'  
|   stlst='South Carolina'  
| CASE st='SD'  
|   stlst='South Dakota'  
| CASE st='TX'  
|   stlst='Texas'
```

01-11-89 15:00:00 IDSTATE.PRG  
Wed 01-11-89 16:05:08

Pg 3  
of 3  
101-120

```
| CASE st='TN'  
|   stlst='Tennessee'  
| CASE st='US'  
|   stlst='United States'  
| CASE st='UT'  
|   stlst='Utah'  
| CASE st='VT'  
|   stlst='Vermont'  
| CASE st='VA'  
|   stlst='Virginia'  
| CASE st='WA'  
|   stlst='Washington'  
| CASE st='WV'  
|   stlst='West Virginia'  
| CASE st='WI'  
|   stlst='Wisconsin'  
| CASE st='WY'  
|   stlst='Wyoming'  
+--ENDCASE  
  RETURN
```

01-11-89 15:00:00 MB0.PRG  
Wed 01-11-89 16:13:24

Pg 1  
of 8  
1-50

```
*****
*- MB0.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*- written for CERL
*****
*- main military base database manipulation routine
*****
*
CLEAR
@ 1,0 TO 4,79 double
@ 2,3 SAY "Military Base Information Management Program"
@ 2,69 SAY DATE()
@ 3,3 SAY "Military base update"
SET DELETED ON
USE milbase INDEX milbase, milcode
STORE 0 TO currec, lstrec
dltpck=.f.
lv=.t.
pg2=.f.
ans="+ "
+--DO WHILE ans<>"Q"
|   @ 5,0 CLEAR
|   +--IF lv
|   |   DO mbscr
|   +--ELSE
|   |   @ 6,2 SAY "State   Base"
|   |   +--IF .NOT. EOF()
|   |   |   currec=RECNO()
|   |   |   i=7
|   |   |   +--DO WHILE .NOT. EOF() .AND. i<20
|   |   |   |   @ i,4 SAY state
|   |   |   |   @ i,10 SAY basename
|   |   |   |   i=i+1
|   |   |   |   lstrec=RECNO()
|   |   |   |   SKIP
|   |   |   +--ENDDO
|   |   |   GOTO currec
|   |   +--ENDIF
|   +--ENDIF
|
|   @ 20,0 TO 20,79 double
|   @ 21,5 SAY "Edit base / Add base / move Forward / ";
|   +"move Backward / Delete base"
|   @ 22,5 SAY "change Views / Switch to weather page / ";
|   +"Print base list / Quit"
|   @ 23,5 SAY "Option (E/A/F/B/D/V/S/P/Q)          " +CHR(174) +" " +CHR(175)
|   ans=" "
|   +--DO WHILE AT(ans,"EAFBDVSPQ")=0
|   |   ans=" "
|   +--ENDIF
```

Pg 2  
of 8  
51-100

B-18

```

|         |         |         |         | CASE cq=69 .OR. cq=101
|         |         |         |         |     sq="E"
|         |         |         |         |     ans="E"
|         |         |         |         | CASE cq=81 .OR. cq=113
|         |         |         |         |     sq="Q"
|         |         |         |         |     ans="Q"
|         |         |         |         | +---ENDCASE
|         |         |         |         |     @ 23,32 GET sq
|         |         |         |         |     CLEAR GETS
|         |         |         |         | +---IF cq=69 .OR. cq=101
|         |         |         |         | |     LOOP
|         |         |         |         | +---ENDIF
|         |         |         |         | +---IF cq=24
|         |         |         |         | |     +---IF RECNO()<>lstrec
|         |         |         |         | | |     @ i,0 SAY " "
|         |         |         |         | | |     i=i+1
|         |         |         |         | | |     SKIP
|         |         |         |         | |     +---ENDIF
|         |         |         |         | +---ENDIF
|         |         |         |         | +---IF cq=5
|         |         |         |         | |     +---IF RECNO()<>currec
|         |         |         |         | | |     @ i,0 SAY " "
|         |         |         |         | | |     i=i-1
|         |         |         |         | | |     SKIP -1
|         |         |         |         | |     +---ENDIF
|         |         |         |         | +---ENDIF
|         |         |         |         | +---ENDDO
|         |         |         |         |     currec=RECNO()
|         |         |         |         | +---ENDIF
|         |         |         |         |
|         |         |         |         | * if user wants to quit out of editing mode, loop down to bottom
|         |         |         |         | +---IF ans="Q"
|         |         |         |         | |     ans=" "
|         |         |         |         | |     LOOP
|         |         |         |         | +---ENDIF
|         |         |         |         |
|         |         |         |         | * otherwise, switch for editing
|         |         |         |         |     lv=.t.
|         |         |         |         | +---IF EOF()
|         |         |         |         | |     @ 22,10 SAY "Must have a base added before editing"
|         |         |         |         | |     ans=" "
|         |         |         |         | |     @ 23,10 SAY "Press any key to continue..." GET ans
|         |         |         |         | |     READ
|         |         |         |         | |     ans=" "
|         |         |         |         | |     LOOP
|         |         |         |         | +---ENDIF
|         |         |         |         |     mst =state
|         |         |         |         |     mcounty =county
|         |         |         |         |     mbasename =basename
|         |         |         |         |     mid_code=id_code

```



```

01-11-89 15:00:00 MBO.PRG
Wed 01-11-89 16:13:24

```

```

|      mlat_h =lat_h
|      mlat_m =lat_m
|      mlong_h =long_h
|      mlong_m =long_m
|      mhtg_dsgn =htg_dsgn
|      mnonatt =nonatt
|      mcmmt =cmmt
|      mhdd =hdd
|      mhdd_1 =hdd_1
|      mhdd_2 =hdd_2
|      mhdd_3 =hdd_3
|      mhdd_4 =hdd_4
|      mhdd_5 =hdd_5
|      mhdd_6 =hdd_6
|      mhdd_7 =hdd_7
|      mhdd_8 =hdd_8
|      mhdd_9 =hdd_9
|      mhdd_10 =hdd_10
|      mhdd_11 =hdd_11
|      mhdd_12 =hdd_12
|      mt_avg =t_avg
|      mt_a_1 =t_a_1
|      mt_a_2 =t_a_2
|      mt_a_3 =t_a_3
|      mt_a_4 =t_a_4
|      mt_a_5 =t_a_5
|      mt_a_6 =t_a_6
|      mt_a_7 =t_a_7
|      mt_a_8 =t_a_8
|      mt_a_9 =t_a_9
|      mt_a_10 =t_a_10
|      mt_a_11 =t_a_11
|      mt_a_12 =t_a_12
|      DO mbedt
|  +---IF ans="A"
|      |      REPLACE state WITH mst. county WITH mcounty, basename WITH
|      |      mbasename, ;
|      |      lat_h WITH mlat_h, lat_m WITH mlat_m, long_h WITH mlong_h, ;
|      |      long_m WITH mlong_m, hdd WITH mhdd
|      |      REPLACE htg_dsgn WITH mhtg_dsgn, id_code WITH mid_code
|      |      REPLACE hdd WITH mhdd, hdd_1 WITH mhdd_1, hdd_2 WITH mhdd_2, ;
|      |      hdd_3 WITH mhdd_3, hdd_4 WITH mhdd_4, hdd_5 WITH mhdd_5
|      |      REPLACE hdd_6 WITH mhdd_6, hdd_7 WITH mhdd_7, ;
|      |      hdd_8 WITH mhdd_8, hdd_9 WITH mhdd_9, hdd_10 WITH mhdd_10, ;
|      |      hdd_11 WITH mhdd_11, hdd_12 WITH mhdd_12
|      |      REPLACE t_avg WITH mt_avg, t_a_1 WITH mt_a_1, t_a_2 WITH mt_a_2, ;
|      |      t_a_3 WITH mt_a_3, t_a_4 WITH mt_a_4, t_a_5 WITH mt_a_5
|      |      REPLACE t_a_6 WITH mt_a_6, t_a_7 WITH mt_a_7, ;
|      |      t_a_8 WITH mt_a_8, t_a_9 WITH mt_a_9, t_a_10 WITH mt_a_10, ;
|      |      t_a_11 WITH mt_a_11, t_a_12 WITH mt_a_12

```

Pg 5  
of 8  
200-249

B-21

01-11-89 15:00:00 MBO.PRG  
Wed 01-11-89 16:13:24

Pg 6  
of 8  
250-299

```
| | | | | +---IF EOF()
| | | | | | GO top
| | | | | +---ENDIF
| | | | | +---ENDIF
| | | | | +---ENDIF
| | | | |
| | | | | CASE ans="B"
| | | | | +---IF lv
| | | | | | +---IF .NOT. EOF()
| | | | | | | SKIP -1
| | | | | | | +---IF BOF()
| | | | | | | | GO top
| | | | | | | +---ENDIF
| | | | | | +---ENDIF
| | | | | +---ELSE
| | | | | | +---IF .NOT. EOF()
| | | | | | | SKIP -13
| | | | | | | +---IF BOF()
| | | | | | | | GO BOTTOM
| | | | | | | +---ENDIF
| | | | | | +---ENDIF
| | | | | +---ENDIF
| | | | |
| | | | | CASE ans="D"
| | | | | +---IF .NOT. lv .AND. .NOT. EOF()
| | | | | | i=7
| | | | | | @ i,0 SAY " "
| | | | | | ans="+"
| | | | | | @ 20,0 CLEAR
| | | | | | @ 22,10 SAY CHR(24) +CHR(25) +" to move indicator / Delete ";
| | | | | | +"indicated base / Quit without deleting"
| | | | | | @ 23,10 SAY "Option (" +CHR(24) +"/" +CHR(25) +"/D/Q) ";
| | | | | | +CHR(174) +" " +CHR(175)
| | | | | | cq=1
| | | | | | ans=" "
| | | | | | +---DO WHILE ans<>"D" .AND. ans<>"Q"
| | | | | | | @ i,0 SAY CHR(175)+CHR(175)+CHR(175)
| | | | | | | +---IF cq>0
| | | | | | | | sq=" "
| | | | | | | | @ 23,32 GET sq
| | | | | | | | CLEAR GETS
| | | | | | | | @ 23,32 SAY ""
| | | | | | | | cq=0
| | | | | | | +---ENDIF
| | | | | | | +---DO WHILE AT( CHR(cq),"DdQq"+CHR(5)+CHR(24) )=0
| | | | | | | | cq=INKEY()
| | | | | | | +---ENDDO
| | | | | | | +---DO CASE
| | | | | | | | CASE cq=5
| | | | | | | | sq=CHR(24)
```

```

| | | | | CASE cq=24
| | | | |   sq=CHR(25)
| | | | | CASE cq=68 .OR. cq=100
| | | | |   sq="D"
| | | | |   ans="D"
| | | | | CASE cq=81 .OR. cq=113
| | | | |   sq="Q"
| | | | |   ans="Q"
| | | | | +--ENDCASE
| | | | |   @ 23,32 GET sq
| | | | |   CLEAR GETS
| | | | | +--IF cq=68 .OR. cq=100
| | | | | |   LOOP
| | | | | +--ENDIF
| | | | | +--IF cq=24
| | | | | |   +--IF RECNO(<>lstrec
| | | | | | |   @ i,0 SAY " "
| | | | | | |   i=i+1
| | | | | | |   SKIP
| | | | | |   +--ENDIF
| | | | | +--ENDIF
| | | | | +--IF cq=5
| | | | | |   +--IF RECNO(<>currrec
| | | | | | |   @ i,0 SAY " "
| | | | | | |   i=i-1
| | | | | | |   SKIP -1
| | | | | |   +--ENDIF
| | | | | +--ENDIF
| | | | | +--ENDDO
| | | | |   currrec=RECNO()
| | | | | +--ENDIF
| | | | |
| * if user wants to quit out of deleting, loop down to bottom
| |   +--IF ans="Q"
| | |   ans=" "
| | |   LOOP
| | | +--ENDIF
| |
| * otherwise, check to be sure about deleting
| |   @ 21,0 CLEAR
| |   +--IF .NOT. EOF()
| | |   ok=.f.
| | |   @ 22,15 SAY "Delete this base? (Y/N)" GET ok PICTURE "Y"
| | |   READ
| | |   +--IF ok
| | | |   @ 23,15 SAY "Are you sure? (Y/N)" GET ok PICTURE "Y"
| | | |   READ
| | | +--ENDIF
| | | +--IF ok
| | | |   DELETE

```

01-11-89 15:00:00 MB0.PRG  
Wed 01-11-89 16:13:24

Pg 8  
of 8  
350-385

```
| | | | dlt pck=.t.  
| | | | SKIP  
| | | | +---IF EOF()  
| | | | | GO top  
| | | | +---ENDIF  
| | | +---ENDIF  
| | +---ELSE  
| | | @ 22,15 SAY "A military base must be present to be deleted."  
| | | ans=" "  
| | | @ 23,15 SAY "Press any key to continue..." GET ans  
| | | READ  
| | | ans="+"  
| | +---ENDIF  
| |  
| | CASE ans="V"  
| | | lv =IIF( lv, .f., .t.)  
| |  
| | CASE ans="P"  
| | | @ 21,0 CLEAR  
| | | DO mbprt  
| |  
| +---ENDCASE  
|  
+---ENDDO  
  
* -- finish up  
SET DELETED OFF  
  
+---IF 'dlt pck  
| @ 20,0 CLEAR  
| @ 23,10 SAY "Removing deleted military bases from file. Please wait..."  
| PACK  
+---ENDIF  
  
CLOSE DATABASES  
RETURN
```

01-11-89 15:00:00 MBEDT.PRG  
Thu 01-12-89 07:49:44

Pg 1  
of 11  
1-50

```
*****
*- MBEDT.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*- written for CERL
*****
*- military base editing routine
*****
*
deg=CHR(248)+"F"
@ 5,0 CLEAR
@ 5,2 SAY "Page 1"
@ 6,10 SAY "State: "
@ 7,10 SAY "Latitude: " +CHR(248)+" ";
+ " Longitude: " +CHR(248)+" ";
@ 7,58 SAY "ID code: "
@ 8,10 SAY "County: "
@ 10,4 SAY "Base name:"
@ 12,4 SAY "Base in a non-attainment area:"
@ 14,4 SAY "Comment:"
@ 17,10 SAY "Annual heating degree days: "
@ 18,10 SAY "Winter heating design temperature (97.5%): " +deg
st=mst
stlst=""
DO idstate
@ 6,17 SAY mst + " - " +stlst
@ 7,20 SAY mlat_h PICTURE "###"
@ 7,25 SAY mlat_m PICTURE "##"
@ 7,44 SAY mlong_h PICTURE "###"
@ 7,49 SAY mlong_m PICTURE "##"
@ 7,67 SAY mid_code
@ 8,20 SAY mcounty
@ 10,15 SAY mbasename
@ 12,35 SAY mnonatt PICTURE "Y"
@ 14,13 SAY mcmmt
@ 17,38 SAY mhdd PICTURE "#####"
@ 18,53 SAY mhtg_dsgn PICTURE "###"

ans=""
+--DO WHILE AT(ans,"AQ")=0
|
| @ 20,0 CLEAR
| @ 22,2 SAY 'Enter two-letter state abbreviation or name'
| ok=.f.
| +--DO WHILE .NOT. ok
| | st=mst+SPACE(18)
| | stlst=""
| | @ 6,17 GET st PICTURE "XXXXXXXXXXXXXXXXXXXXX"
| | READ
| | rdky=READKEY()
```

```

| |   +---IF .NOT. ( rdky=12 .OR. rdky=268 )
| |   |       DO chkstat2
| |   |       +---IF ", " $ stlst
| * if special code found, then say that no match found
| |   |       +---IF stlst=",--"
| |   |       |       @ 23,12 SAY "No match found for the name"
| |   |       |       @ 24,12 SAY "Please check your spelling"
| |   |       |
| * if regular names are present, display them as possible matches
| |   |       +---ELSE
| |   |       |       @ 23,12 SAY "Enter the name more completely. Possible
| |   |       |       matches are:"
| |   |       |       @ 24,2 SAY SUBSTR(stlst,1,76)
| |   |       +---ENDIF
| |   |       ok=.f.
| |   +---ENDIF
| +---ENDIF
| +---ENDDO
|   @ 22,0 CLEAR
|   @ 22,10 SAY "Accept (save) / Change / Quit (without saving)"
|   @ 23,10 SAY "Option (A/C/Q)      " +CHR(174) +" " +CHR(175)
|   @ 6,17 SAY SPACE(25)
|   mst=st
|   @ 6,17 SAY mst +" - " +stlst
|   @ 7,20 GET mlat_h PICTURE "###"
|   @ 7,25 GET mlat_m PICTURE "##"
|   @ 7,44 GET mlong_h PICTURE "###"
|   @ 7,49 GET mlong_m PICTURE "##"
|   @ 7,67 GET mid_code
|   @ 8,20 GET mcounty
|   @ 10,15 GET mbasename
|   @ 12,35 GET mnonatt PICTURE "Y"
|   @ 14,13 GET mcmmt
|   @ 17,38 GET mhdd PICTURE "#####"
|   @ 18,53 GET mhtg_dsgn PICTURE "###"
|   CLEAR GETS
|   @ 20,0
|
|   ok=.f.
| +---DO WHILE .NOT. ok
| |   @ 7,20 GET mlat_h PICTURE "###"
| |   READ
| |   ok= (mlat_h>24) .AND. (mlat_h<73)
| |   +---IF .NOT. ok
| |   |       @ 20,5 SAY "Latitude must be between 25" +CHR(248) ;
| |   |       +" and 72" +CHR(248)
| |   +---ENDIF
| +---ENDDO
|   @ 20,0

```

```
|      ok=.f.
|  +--DO WHILE .NOT. ok
|  |      @ 7,25 GET mlat_m PICTURE "##"
|  |      READ
|  |      ok= (mlat_m>-1) .AND. (mlat_m<60)
|  |  +--IF .NOT. ok
|  |  |      @ 20,5 SAY "Latitude minutes must be between 0 ";
|  |  |      +"and 59, inclusive"
|  |  +--ENDIF
|  +--ENDDO
|      @ 20,0
|
|      ok=.f.
|  +--DO WHILE .NOT. ok
|  |      @ 7,44 GET mlong_h PICTURE "###"
|  |      READ
|  |      ok= (mlong_h>62) .AND. (mlong_h<173)
|  |  +--IF .NOT. ok
|  |  |      @ 20,5 SAY "Longitude must be between 63" +CHR(248) ;
|  |  |      +" and 172" +CHR(248)
|  |  +--ENDIF
|  +--ENDDO
|      @ 20,0
|
|      ok=.f.
|  +--DO WHILE .NOT. ok
|  |      @ 7,49 GET mlong_m PICTURE "##"
|  |      READ
|  |      ok= (mlong_m>-1) .AND. (mlong_m<60)
|  |  +--IF .NOT. ok
|  |  |      @ 20,5 SAY "Longitude minutes must be between 0 ";
|  |  |      +"and 59, inclusive"
|  |  +--ENDIF
|  +--ENDDO
|      @ 20,0
|
|      ok=.f.
|  +--DO WHILE .NOT. ok
|  |      @ 7,67 GET mid_code PICTURE "!!!!!!"
|  |      READ
|  |      SET ORDER TO 2
|  |      rc=RECNO()
|  |      SEEK mid_code
|  |  +--IF EOF() .OR. rc=RECNO()
|  |  |      ok=.t.
|  |  +--ELSE
|  |  |      @ 20,2 SAY "ID code must be unique.  Your entry is a duplicate"
|  |  +--ENDIF
|  |      SET ORDER TO 1
|  |      GOTO rc
```



```
|  +--ENDDO
|      @ 20,0
|
|      @ 8,20 GET mcounty
|      @ 10,15 GET mbasename
|      @ 12,35 GET mnonatt PICTURE "Y"
|      @ 14,13 GET mcrmt
|      READ
|
|      ok=.f.
|  +--DO WHILE .NOT. ok
|  |      @ 17,38 GET mhdd PICTURE "#####"
|  |      READ
|  |      ok= (mhdd>-1) .AND. (mhdd<20001)
|  |      +--IF .NOT. ok
|  |      |      @ 20,5 SAY "Heating degree days must be between " ;
|  |      |      +" 0 and 20000"
|  |      +--ENDIF
|  +--ENDDO
|      @ 20,0
|
|      ok=.f.
|  +--DO WHILE .NOT. ok
|  |      @ 18,53 GET mhtg_dsgn PICTURE "###"
|  |      READ
|  |      ok= (mhtg_dsgn>-51) .AND. (mhtg_dsgn<81)
|  |      +--IF .NOT. ok
|  |      |      @ 20,5 SAY "Heating design temperature must be between " ;
|  |      |      +" -50 and 80" +CHR(248) +"F"
|  |      +--ENDIF
|  +--ENDDO
|      @ 20,0
|
|      ans=" "
|  +--DO WHILE AT(ans,"ACQ")=0
|  |      ans=" "
|  |      @ 23,30 GET ans PICTURE "!"
|  |      READ
|  +--ENDDO
+--ENDDO
+--IF ans="Q"
|      RETURN
+--ENDIF
@ 5,0 CLEAR
@ 5,2 SAY "Page 2"
@ 7,2 SAY "Annual average outdoor temperature: " +deg
deg=SPACE(11)+deg
@ 10,1 SAY "Jan" +deg
```

01-11-89 15:00:00 MBEDT.PRG  
Thu 01-12-89 07:49:44

Pg 5  
of 11  
200-249

```
@ 11,1 SAY "Feb" +deg
@ 12,1 SAY "Mar" +deg
@ 13,1 SAY "Apr" +deg
@ 10,27 SAY "May" +deg
@ 11,27 SAY "Jun" +deg
@ 12,27 SAY "Jul" +deg
@ 13,27 SAY "Aug" +deg
@ 10,53 SAY "Sep" +deg
@ 11,53 SAY "Oct" +deg
@ 12,53 SAY "Nov" +deg
@ 13,53 SAY "Dec" +deg
@ 9,6 SAY "MHDD Tam"
@ 9,32 SAY "MHDD Tam"
@ 9,58 SAY "MHDD Tam"
@ 22,10 SAY "Accept (save) / Change / Quit (without saving)"
@ 23,10 SAY "Option (A/C/Q)      " +CHR(174) +" " +CHR(175)
ans=" "
+--DO WHILE AT(ans,"AQ")=0
|
|      ok=.f.
|      +--DO WHILE .NOT. ok
|      |      @ 7,38 GET mt_avg PICTURE "###"
|      |      READ
|      |      ok= (mt_avg>-51) .AND. (mt_avg<121)
|      |      +--IF .NOT. ok
|      |      |      @ 20,5 SAY "Average temperature must be between " ;
|      |      |      +" -50 and 120" +CHR(248) +"F"
|      |      +--ENDIF
|      +--ENDDO
|      @ 20,0
|
|      ok=.f.
|      +--DO WHILE .NOT. ok
|      |      @ 10,5 GET mhdd_1 PICTURE "#####"
|      |      READ
|      |      ok= (mhdd_1>-1) .AND. (mhdd_1<2501)
|      |      +--IF .NOT. ok
|      |      |      @ 20,0
|      |      |      @ 20,5 SAY "Monthly heating degree days must be between " ;
|      |      |      +" 0 and 2500"
|      |      +--ENDIF
|      +--ENDDO
|      @ 20,0
|
|      ok=.f.
|      +--DO WHILE .NOT. ok
|      |      @ 11,5 GET mhdd_2 PICTURE "#####"
|      |      READ
|      |      ok= (mhdd_2>-1) .AND. (mhdd_2<2501)
|      |      +--IF .NOT. ok
```

```
| | | @ 20,0
| | | @ 20,5 SAY "Monthly heating degree days must be between " ;
| | | +" 0 and 2500"
| | +--ENDIF
| +--ENDDO
| @ 20,0
|
| ok=.f.
| +--DO WHILE .NOT. ok
| | @ 12,5 GET mhdd_3 PICTURE "#####"
| | READ
| | ok= (mhdd_3>-1) .AND. (mhdd_3<2501)
| | +--IF .NOT. ok
| | | @ 20,0
| | | @ 20,5 SAY "Monthly heating degree days must be between " ;
| | | +" 0 and 2500"
| | +---ENDIF
| +--ENDDO
| @ 20,0
|
| ok=.f.
| +--DO WHILE .NOT. ok
| | @ 13,5 GET mhdd_4 PICTURE "#####"
| | READ
| | ok= (mhdd_4>-1) .AND. (mhdd_4<2501)
| | +--IF .NOT. ok
| | | @ 20,0
| | | @ 20,5 SAY "Monthly heating degree days must be between " ;
| | | +" 0 and 2500"
| | +---ENDIF
| +--ENDDO
| @ 20,0
|
| ok=.f.
| +--DO WHILE .NOT. ok
| | @ 10,31 GET mhdd_5 PICTURE "#####"
| | READ
| | ok= (mhdd_5>-1) .AND. (mhdd_5<2501)
| | +--IF .NOT. ok ,
| | | @ 20,0
| | | @ 20,5 SAY "Monthly heating degree days must be between " ;
| | | +" 0 and 2500"
| | +---ENDIF
| +--ENDDO
| @ 20,0
|
| ok=.f.
| +--DO WHILE .NOT. ok
| | @ 11,31 GET mhdd_6 PICTURE "#####"
| | READ
```

```
|      |      ok= (mhdd_6>-1) .AND. (mhdd_6<2501)
|      |      +---IF .NOT. ok
|      |      |      @ 20,0
|      |      |      @ 20,5 SAY "Monthly heating degree days must be between " ;
|      |      |      +" 0 and 2500"
|      |      +---ENDIF
|      +---ENDDO
|      @ 20,0
|
|      ok=.f.
|      +---DO WHILE .NOT. ok
|      |      @ 12,31 GET mhdd_7 PICTURE "#####"
|      |      READ
|      |      ok= (mhdd_7>-1) .AND. (mhdd_7<2501)
|      |      +---IF .NOT. ok
|      |      |      @ 20,0
|      |      |      @ 20,5 SAY "Monthly heating degree days must be between " ;
|      |      |      +" 0 and 2500"
|      |      +---ENDIF
|      +---ENDDO
|      @ 20,0
|
|      ok=.f.
|      +---DO WHILE .NOT. ok
|      |      @ 13,31 GET mhdd_8 PICTURE "#####"
|      |      READ
|      |      ok= (mhdd_8>-1) .AND. (mhdd_8<2501)
|      |      +---IF .NOT. ok
|      |      |      @ 20,0
|      |      |      @ 20,5 SAY "Monthly heating degree days must be between " ;
|      |      |      +" 0 and 2500"
|      |      +---ENDIF
|      +---ENDDO
|      @ 20,0
|
|      ok=.f.
|      +---DO WHILE .NOT. ok
|      |      @ 10,57 GET mhdd_9 PICTURE "#####"
|      |      READ
|      |      ok= (mhdd_9>-1) .AND. (mhdd_9<2501)
|      |      +---IF .NOT. ok
|      |      |      @ 20,0
|      |      |      @ 20,5 SAY "Monthly heating degree days must be between " ;
|      |      |      +" 0 and 2500"
|      |      +---ENDIF
|      +---ENDDO
|      @ 20,0
|
|      ok=.f.
|      +---DO WHILE .NOT. ok
```

```
|      @ 11.57 GET mhdd_10 PICTURE "#####"
|      READ
|      ok= (mhdd_10>-1) .AND. (mhdd_10<2501)
|      +---IF .NOT. ok
|      |      @ 20,0
|      |      @ 20,5 SAY "Monthly heating degree days must be between " ;
|      |      +" 0 and 2500"
|      +---ENDIF
|  +---ENDDO
|      @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|      |      @ 12.57 GET mhdd_11 PICTURE "#####"
|      |      READ
|      |      ok= (mhdd_11>-1) .AND. (mhdd_11<2501)
|      |      +---IF .NOT. ok
|      |      |      @ 20,0
|      |      |      @ 20,5 SAY "Monthly heating degree days must be between " ;
|      |      |      +" 0 and 2500"
|      |      +---ENDIF
|  +---ENDDO
|      @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|      |      @ 13.57 GET mhdd_12 PICTURE "#####"
|      |      READ
|      |      ok= (mhdd_12>-1) .AND. (mhdd_12<2501)
|      |      +---IF .NOT. ok
|      |      |      @ 20,0
|      |      |      @ 20,5 SAY "Monthly heating degree days must be between " ;
|      |      |      +" 0 and 2500"
|      |      +---ENDIF
|  +---ENDDO
|      @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|      |      @ 10.12 GET mt_a_1 PICTURE "###"
|      |      READ
|      |      ok= (mt_a_1>-51) .AND. (mt_a_1<121)
|      |      +---IF .NOT. ok
|      |      |      @ 20,5 SAY "Average temperature must be between " ;
|      |      |      +" -50 and 120" +CHR(248) +"F"
|      |      +---ENDIF
|  +---ENDDO
|      @ 20,0
|
|      ok=.f.
```

```
|  +---DO WHILE .NOT. ok
|  |      @ 11,12 GET mt_a_2 PICTURE "###"
|  |      READ
|  |      ok= (mt_a_2>-51) .AND. (mt_a_2<121)
|  |      +---IF .NOT. ok
|  |      |      @ 20,5 SAY "Average temperature must be between " ;
|  |      |      + " -50 and 120" +CHR(248) +"F"
|  |      +---ENDIF
|  +---ENDDO
|      @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|  |      @ 12,12 GET mt_a_3 PICTURE "###"
|  |      READ
|  |      ok= (mt_a_3>-51) .AND. (mt_a_3<121)
|  |      +---IF .NOT. ok
|  |      |      @ 20,5 SAY "Average temperature must be between " ;
|  |      |      + " -50 and 120" +CHR(248) +"F"
|  |      +---ENDIF
|  +---ENDDO
|      @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|  |      @ 13,12 GET mt_a_4 PICTURE "###"
|  |      READ
|  |      ok= (mt_a_4>-51) .AND. (mt_a_4<121)
|  |      +---IF .NOT. ok
|  |      |      @ 20,5 SAY "Average temperature must be between " ;
|  |      |      + " -50 and 120" +CHR(248) +"F"
|  |      +---ENDIF
|  +---ENDDO
|      @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|  |      @ 10,38 GET mt_a_5 PICTURE "###"
|  |      READ
|  |      ok= (mt_a_5>-51) .AND. (mt_a_5<121)
|  |      +---IF .NOT. ok
|  |      |      @ 20,5 SAY "Average temperature must be between " ;
|  |      |      + " -50 and 120" +CHR(248) +"F"
|  |      +---ENDIF
|  +---ENDDO
|      @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|  |      @ 11,38 GET mt_a_6 PICTURE "###"
```

```
|      READ
|      ok= (mt_a_6>-51) .AND. (mt_a_6<121)
|      +---IF .NOT. ok
|      |          @ 20,5 SAY "Average temperature must be between " ;
|      |          +" -50 and 120" +CHR(248) +"F"
|      +---ENDIF
|  +---ENDDO
|      @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|      |          @ 12,38 GET mt_a_7 PICTURE "###"
|      |          READ
|      |          ok= (mt_a_7>-51) .AND. (mt_a_7<121)
|      |          +---IF .NOT. ok
|      |      |          @ 20,5 SAY "Average temperature must be between " ;
|      |      |          +" -50 and 120" +CHR(248) +"F"
|      |      +---ENDIF
|      +---ENDDO
|          @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|      |          @ 13,38 GET mt_a_8 PICTURE "###"
|      |          READ
|      |          ok= (mt_a_8>-51) .AND. (mt_a_8<121)
|      |          +---IF .NOT. ok
|      |      |          @ 20,5 SAY "Average temperature must be between " ;
|      |      |          +" -50 and 120" +CHR(248) +"F"
|      |      +---ENDIF
|      +---ENDDO
|          @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|      |          @ 10,64 GET mt_a_9 PICTURE "###"
|      |          READ
|      |          ok= (mt_a_9>-51) .AND. (mt_a_9<121)
|      |          +---IF .NOT. ok
|      |      |          @ 20,5 SAY "Average temperature must be between " ;
|      |      |          +" -50 and 120" +CHR(248) +"F"
|      |      +---ENDIF
|      +---ENDDO
|          @ 20,0
|
|      ok=.f.
|  +---DO WHILE .NOT. ok
|      |          @ 11,64 GET mt_a_10 PICTURE "###"
|      |          READ
|      |          ok= (mt_a_10>-51) .AND. (mt_a_10<121)
```

01-11-89 15:00:00 MBEDT.PRG  
Thu 01-12-89 07:49:44

Pg 11  
of 11  
500-540

```
| |   +--IF .NOT. ok
| |   |       @ 20,5 SAY "Average temperature must be between " ;
| |   |       +" -50 and 120" +CHR(248) +"F"
| |   +--ENDIF
| +--ENDDO
|   @ 20,0
|
|   ok=.f.
| +--DO WHILE .NOT. ok
| |   @ 12,64 GET mt_a_11 PICTURE "###"
| |   READ
| |   ok= (mt_a_11>-51) .AND. (mt_a_11<121)
| |   +--IF .NOT. ok
| | |       @ 20,5 SAY "Average temperature must be between " ;
| | |       +" -50 and 120" +CHR(248) +"F"
| |   +--ENDIF
| +--ENDDO
|   @ 20,0
|
|   ok=.f.
| +--DO WHILE .NOT. ok
| |   @ 13,64 GET mt_a_12 PICTURE "###"
| |   READ
| |   ok= (mt_a_12>-51) .AND. (mt_a_12<121)
| |   +--IF .NOT. ok
| | |       @ 20,5 SAY "Average temperature must be between " ;
| | |       +" -50 and 120" +CHR(248) +"F"
| |   +--ENDIF
| +--ENDDO
|   @ 20,0
|
|   ans=" "
| +--DO WHILE AT(ans,"ACQ")=0
| |   ans=" "
| |   @ 23,30 GET ans PICTURE "!"
| |   READ
| +--ENDDO
+--ENDDO

RETURN
```



01-11-89 15:00:00 MBPRT.PRG  
Thu 01-12-89 11:37:48

Pg 1  
of 5  
1-50

```
*****
*- MBPRT.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*- written for CERL
*****
*- military base information printout routine
*****
*
* check to see if any records present
+---IF RECCOUNT()=0
|   @ 22,0 CLEAR
|   @ 22,10 SAY "At least one base must be in file to select print option."
|   ans=" "
|   @ 23,10 SAY "Press any key to continue..." GET ans
|   READ
|   ans=" "
|   RETURN
+---ENDIF

* if running stand-alone, values won't be defined
+---IF TYPE("topmgn")="U"
|   topmgn=0
+---ENDIF
+---IF TYPE("btmmgn")="U"
|   btmmgn=58
+---ENDIF
+---IF TYPE("lftmgn")="U"
|   lftmgn=0
+---ENDIF

* store current record being display so it isn't lost
rc=RECNO()

* set up variables
stlst=''
pg=0

* find out from user how many bases to print
@ 22,0 CLEAR
@ 22,4 SAY "print base that is Displayed, bases for one State, ";
+"All bases, or "
@ 23,4 SAY "Quit (cancel print) -- Option ( D / S / A / Q )      ";
+CHR(174) +" " +CHR(175)
ans=" "
+---DO WHILE AT(ans,"DSAQ")=0
|   ans=" "
|   @ 23,58 GET ans PICTURE "!"
|   READ
```

+--ENDDO

\* if quit is selected, just return without changing a thing

```
+--IF ans="Q"  
|   ans=" "  
|   RETURN  
+--ENDIF
```

\* ask questions to see what state to print

```
+--IF ans="S"  
|   @ 22,0 CLEAR TO 24,79  
|   @ 22,5 SAY "Enter state for base information printout:"  
|  
|   * get verified state entry  
|   st=SPACE(20)  
|   ok=.f.  
|   +--DO WHILE .NOT. ok  
|   |   st=SPACE(20)  
|   |   stlst=""  
|   |   @ 22,48 GET st PICTURE "XXXXXXXXXXXXXXXXXXXXX"  
|   |   READ  
|   |   rdky=READKEY()  
|   |   +--IF rdky=12  
|   |   |   RETURN  
|   |   +--ENDIF  
|   |   +--IF LEN(TRIM(st))>0  
|   |   |   DO chkstate  
|   |   +--ENDIF  
|   +--ENDDO  
|   mst=TRIM(st)  
+--ENDIF
```

\* if single state wanted, go to first entry

```
+--IF ans="S"  
|   SEEK mst  
+--ENDIF
```

\* if all fields to be printed, go to top of file

```
+--IF ans="A"  
|   GO top  
+--ENDIF
```

\* set escape off to be able to trap it with inkey statement  
SET ESCAPE OFF  
abt=.f.

\* print message about printing information

```
@ 22,0 CLEAR  
@ 23,10 SAY "Printing in progress. Press <ESC> to quit early..."
```

01-11-89 15:00:00 MBPRT.PRG  
Thu 01-12-89 11:37:48

Pg 3  
of 5  
101-150

```
* set up printer
SET MARGIN TO lftmgn
SET DEVICE TO PRINT
prevst=""

* loop for printing base information
+---DO WHILE .NOT. EOF() .AND. .NOT. abt
|
| * first check for keys pressed
|   c=1
| * loop until no more keys present
| +---DO WHILE c<>0
| |   c=INKEY()
| * if key pressed was escape, then set flag to abort early
| |   +---IF c=27
| | |     abt=.t.
| |   +---ENDIF
| +---ENDDO
|
| * if abort flag set, jump to bottom of loop
| +---IF abt
| |   LOOP
| +---ENDIF
|
| * advance to next page for a new state
| +---IF prevst<>state
| |   st=state
| |   DO chkstate
| |   hdg="Military Installation Database Listing for: " +state + " - ";
| |   +stlst
| |   pg=pg+1
| |   @ topmgn,0 SAY hdg
| |   @ PROW(),67 SAY "Page " +LTRIM(STR(pg))
| |   prevst=state
| +---ENDIF
|
| * if new page required, print heading first
| +---IF pg=0 .OR. PROW()+16>btmmgn
| |   pg=pg+1
| |   @ topmgn,0 SAY hdg
| |   @ topmgn,67 SAY "Page " +LTRIM(STR(pg))
| +---ENDIF
|
| * print base information
|   @ PROW()+3,0 SAY "Base name:"
|   @ PROW(),11 SAY basename
|   @ PROW()+1,0 SAY "State: "
|   st=state
|   stlst=''
|   DO idstate
```

```
|      @ PROW(),7 SAY st +" - " +stlst
|      @ PROW(),40 SAY "Last changed: "
|      @ PROW(),54 SAY last_chg
|      @ PROW()+1,0 SAY "Latitude: "
|      @ PROW(),10 SAY lat_h PICTURE "###"
|      @ PROW(),13 SAY "d"
|      @ PROW(),15 SAY lat_m PICTURE "##"
|      @ PROW(),17 SAY "m"
|      @ PROW(),22 SAY "Longitude:"
|      @ PROW(),33 SAY long_h PICTURE "###"
|      @ PROW(),36 SAY "d"
|      @ PROW(),38 SAY long_m PICTURE "##"
|      @ PROW(),40 SAY "m"
|      @ PROW(),50 SAY "ID code: " + id_code
|      @ PROW()+1,0 SAY "County: "
|      @ PROW(),8 SAY county
|      @ PROW()+1,0 SAY "Base in a non-attainment area:"
|      @ PROW(),31 SAY nonatt PICTURE "Y"
|      @ PROW()+1,0 SAY "Comment:"
|      @ PROW(),9 SAY cmmt
|      @ PROW()+2,0 SAY "Annual heating degree days: "
|      @ PROW(),28 SAY hdd PICTURE "#####"
|      @ PROW()+1,0 SAY "Winter heating design temperature (97.5%):"
|      @ PROW(),43 SAY htg_dsgn PICTURE "###"
|      @ PROW(),46 SAY "F"
|      @ PROW()+1,0 SAY "Annual average outdoor temperature: ";
|      + STR(t_avg,3)+"F"
|      @ PROW()+2,5 SAY "MHDD Tam"
|      @ PROW(),29 SAY "MHDD Tam"
|      @ PROW(),53 SAY "MHDD Tam"
|      @ PROW()+1,0 SAY "Jan"
|      @ PROW(),4 SAY hdd_1 PICTURE "#####"
|      @ PROW(),11 SAY t_a_1 PICTURE "###F"
|      @ PROW(),24 SAY "May"
|      @ PROW(),28 SAY hdd_5 PICTURE "#####"
|      @ PROW(),35 SAY t_a_5 PICTURE "###F"
|      @ PROW(),48 SAY "Sep"
|      @ PROW(),52 SAY hdd_9 PICTURE "#####"
|      @ PROW(),59 SAY t_a_9 PICTURE "###F"
|      @ PROW()+1,0 SAY "Feb"
|      @ PROW(),4 SAY hdd_2 PICTURE "#####"
|      @ PROW(),11 SAY t_a_2 PICTURE "###F"
|      @ PROW(),24 SAY "Jun"
|      @ PROW(),28 SAY hdd_6 PICTURE "#####"
|      @ PROW(),35 SAY t_a_6 PICTURE "###F"
|      @ PROW(),48 SAY "Oct"
|      @ PROW(),52 SAY hdd_10 PICTURE "#####"
|      @ PROW(),59 SAY t_a_10 PICTURE "###F"
|      @ PROW()+1,0 SAY "Mar"
|      @ PROW(),4 SAY hdd_3 PICTURE "#####"
```

```
|      @ PROW(),11 SAY t_a_3 PICTURE "###F"
|      @ PROW(),24 SAY "Jul"
|      @ PROW(),28 SAY hdd_7 PICTURE "#####"
|      @ PROW(),35 SAY t_a_7 PICTURE "###F"
|      @ PROW(),48 SAY "Nov"
|      @ PROW(),52 SAY hdd_11 PICTURE "#####"
|      @ PROW(),59 SAY t_a_11 PICTURE "###F"
|      @ PROW()+1,0 SAY "Apr"
|      @ PROW(),4 SAY hdd_4 PICTURE "#####"
|      @ PROW(),11 SAY t_a_4 PICTURE "###F"
|      @ PROW(),24 SAY "Aug"
|      @ PROW(),28 SAY hdd_8 PICTURE "#####"
|      @ PROW(),35 SAY t_a_8 PICTURE "###F"
|      @ PROW(),48 SAY "Dec"
|      @ PROW(),52 SAY hdd_12 PICTURE "#####"
|      @ PROW(),59 SAY t_a_12 PICTURE "###F"
|
| * skip to next entry
|     SKIP
|
| * if only one state wanted, check to see if a new state has shown up
| +---IF ans="S"
| * if skip has moved to a new state, go to bottom, then one past for
| * hitting the EOF (end-of-file)
| | +---IF mst<>state
| | |         GO BOTTOM
| | |         SKIP
| | +---ENDIF
| +---ENDIF
|
| * if only the displayed base is wanted, skip to bottom
| +---IF ans="D"
| |         GO BOTTOM
| |         SKIP
| +---ENDIF
|
+---ENDDO

|
| * go back to original record being displayed
| GOTO rc
|
| * move back to top of page, and reset values back to normal
| EJECT
| SET ESCAPE ON
| SET DEVICE TO SCREEN
| SET MARGIN TO 0
| RETURN
```

```
*****
*- MBSCR.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*- written for CERL
*****
*- military base display routine
*****
*
```

```
deg=CHR(248)+"F"
@ 5,0 CLEAR TO 18,79
```

```
+--IF .NOT. pg2
```

```
|
|   @ 6,10 SAY "State: "
|   @ 6,50 SAY "Last changed: "
|   @ 7,10 SAY "Latitude: " +CHR(248)+" ";
|   + " Longitude: " +CHR(248)+" ";
|   @ 7,58 SAY "ID code:"
|   @ 8,10 SAY "County: "
|   @ 10,4 SAY "Base name:"
|   @ 12,4 SAY "Base in a non-attainment area:"
|   @ 14,4 SAY "Comment:"
|   @ 17,10 SAY "Annual heating degree days: "
|   @ 18,10 SAY "Winter heating design temperature (97.5%): " +deg
```

```
+--IF .NOT. EOF()
```

```
|   st=state
|   stlst=""
|   DO idstate
|   @ 6,17 SAY st + " - " +stlst
|   @ 6,64 SAY last_chg
|   @ 7,20 SAY lat_h PICTURE "###"
|   @ 7,25 SAY lat_m PICTURE "##"
|   @ 7,44 SAY long_h PICTURE "###"
|   @ 7,49 SAY long_m PICTURE "##"
|   @ 7,67 SAY id_code
|   @ 8,20 SAY county
|   @ 10,15 SAY basename
|   @ 12,35 SAY nonatt PICTURE "Y"
|   @ 14,13 SAY cmmt
|   @ 17,38 SAY hdd PICTURE "#####"
|   @ 18,53 SAY htg_dsgn PICTURE "###"
```

```
+--ENDIF
```

```
+--ELSE
```

```
| * display page 2
```

```
|   @ 6,4 SAY "Base name: "
|   @ 8,2 SAY "Annual average outdoor temperature: " +deg
|   deg =" " +deg
```

01-11-89 15:00:00 MBSCR.PRG  
Wed 01-11-89 16:13:09

Pg 2  
of 2  
51-97

```
|      @ 10,1 SAY "Jan" +deg
|      @ 11,1 SAY "Feb" +deg
|      @ 12,1 SAY "Mar" +deg
|      @ 13,1 SAY "Apr" +deg
|      @ 10,27 SAY "May" +deg
|      @ 11,27 SAY "Jun" +deg
|      @ 12,27 SAY "Jul" +deg
|      @ 13,27 SAY "Aug" +deg
|      @ 10,53 SAY "Sep" +deg
|      @ 11,53 SAY "Oct" +deg
|      @ 12,53 SAY "Nov" +deg
|      @ 13,53 SAY "Dec" +deg
|      @ 9,6 SAY "MHDD Tam"
|      @ 9,32 SAY "MHDD Tam"
|      @ 9,58 SAY "MHDD Tam"
|  +---IF .NOT. EOF( )
|  |      @ 6,15 SAY basename
|  |      @ 8,38 SAY t_avg
|  |      @ 10,5 SAY hdd_1
|  |      @ 11,5 SAY hdd_2
|  |      @ 12,5 SAY hdd_3
|  |      @ 13,5 SAY hdd_4
|  |      @ 10,31 SAY hdd_5
|  |      @ 11,31 SAY hdd_6
|  |      @ 12,31 SAY hdd_7
|  |      @ 13,31 SAY hdd_8
|  |      @ 10,57 SAY hdd_9
|  |      @ 11,57 SAY hdd_10
|  |      @ 12,57 SAY hdd_11
|  |      @ 13,57 SAY hdd_12
|  |      @ 10,12 SAY t_a_1
|  |      @ 11,12 SAY t_a_2
|  |      @ 12,12 SAY t_a_3
|  |      @ 13,12 SAY t_a_4
|  |      @ 10,38 SAY t_a_5
|  |      @ 11,38 SAY t_a_6
|  |      @ 12,38 SAY t_a_7
|  |      @ 13,38 SAY t_a_8
|  |      @ 10,64 SAY t_a_9
|  |      @ 11,64 SAY t_a_10
|  |      @ 12,64 SAY t_a_11
|  |      @ 13,64 SAY t_a_12
|  +---ENDIF
|
+---ENDIF

RETURN
```

01-11-89 15:00:00 MILBASE.PRG  
Wed 01-11-89 16:09:00

Pg 1  
of 2  
1-50

```
*****
*- MILBASE.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*- written for CERL
*****
*- main military base database manipulation program
*****
*
* reset colors to desired values if necessary
SET TALK OFF
DO setcolor
CLEAR ALL
SET BELL OFF
SET CONSOLE ON
SET DEVICE TO SCREEN
SET MARGIN TO 0
ON ESCAPE

@ 6,0 SAY ""
TEXT
'      @      @      @@@@@@      @      @@@@@@@@      @@@      @@@@@@      @@@@@@
'      @@      @@      @      @      @      @      @      @      @
'      @ @ @ @      @      @      @      @      @      @      @
'      @ @ @ @      @      @      @      @      @      @      @
'      @ @ @ @      @      @      @      @      @      @      @
'      @ @ @ @      @      @      @      @      @      @      @
'      @      @      @@@@@@      @@@@@@      @@@@@@      @      @      @@@@@@
ENDTEXT
@ 4,0 TO 16,79 double

* define operating environment
DO dbenvrn

* check for index file for coal fields
indxnd= ( FILE("milbase"+ending) ) .AND. ( FILE("milcode"+ending) )
+--IF .NOT. indxnd
|   @ 18,10 SAY "Index files were not found on startup"
|   @ 19,10 SAY "Please wait while they are created"
|
|   +--IF .NOT. clipper
|   |   ON ESCAPE abt=.t.
|   +--ENDIF
|
|   @ ROW()+1,10 SAY "Indexing military bases by state"
|   USE milbase
|   SET SAFETY OFF
|   INDEX ON state TO milbase
|   SET SAFETY ON
|   @ ROW(),COL() SAY " - done"
```



01-11-89 15:00:00 MILBASE.PRG  
Wed 01-11-89 16:09:00

Pg 2  
of 2  
51-83

```
|
|      @ ROW()+1,10 SAY "Indexing military bases by ID code"
|      SET SAFETY OFF
|      INDEX ON id_code TO milcode
|      SET SAFETY ON
|      CLOSE DATABASES
|      @ ROW(),COL() SAY " - done"
|
|      +--IF .NOT. clipper
|      |      ON ESCAPE
|      +--ENDIF
|
+--ENDIF

      * clear any keys while user was waiting
      c=1
+--DO WHILE c<>0
|      c=INKEY()
+--ENDDO

      * display message
      @ 24,20 SAY "Press any key to continue..."
+--DO WHILE c=0
|      c=INKEY()
+--ENDDO

      * run main milbase routine
      DO mb0

      CLEAR ALL
      CLEAR
      SET TALK ON
      RETURN
```

01-11-89 15:00:00 SETCOLOR.PRG  
Wed 01-11-89 16:08:25

Pg 1  
of 1  
1-23

```
*****
*- SETCOLOR.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*****
*- routine to set colors based on database entry
*****
*
* reset colors to desired values if necessary
+--IF FILE("colors.dbf")
|   USE colors
|   +--IF RECCOUNT(>)>0
|   |       c_lf=TRIM(lofg)
|   |       c_lb=TRIM(lobg)
|   |       c_hf=TRIM(hifg)
|   |       c_hb=TRIM(hibg)
|   |       c_bd=TRIM(brdr)
|   |       SET COLOR TO &c_lf./&c_lb., &c_hf./&c_hb., &c_bd
|   +--ENDIF
+--ENDIF
RELEASE ALL LIKE c_??
CLEAR
RETURN
```

## **Appendix C: Facility Design and Planning Engineering Weather Data Listing**

Base name: Fort Greely

State: AK - Alaska

Last changed: 09/01/88

Latitude: 63d 58m Longitude: 145d 44m

ID code: AK-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Eielson AFB / Fairbanks, AK

Annual heating degree days: 13698

Winter heating design temperature (97.5%): -43F

Annual average outdoor temperature: 28F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	2069	-6F	May	597	48F	Sep	693	44F
Feb	1877	0F	Jun	247	59F	Oct	1425	23F
Mar	1850	10F	Jul	219	60F	Nov	2005	3F
Apr	1137	30F	Aug	347	56F	Dec	2032	-4F

Base name: Fort Jonathan Wainwright

State: AK - Alaska

Last changed: 09/01/88

Latitude: 64d 50m Longitude: 147d 37m

ID code: AK-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Eielson AFB / Fairbanks, AK

Annual heating degree days: 14345

Winter heating design temperature (97.5%): -47F

Annual average outdoor temperature: 28F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	2069	-6F	May	597	48F	Sep	693	44F
Feb	1877	0F	Jun	247	59F	Oct	1425	23F
Mar	1850	10F	Jul	219	60F	Nov	2005	3F
Apr	1137	30F	Aug	347	56F	Dec	2032	-4F

Base name: Fort Richardson

State: AK - Alaska

Last changed: 09/01/88

Latitude: 61d 16m Longitude: 149d 39m

ID code: AK-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Elmendorf AFB / Anchorage, AK

Annual heating degree days: 10722

Winter heating design temperature (97.5%): -16F

Annual average outdoor temperature: 36F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1618	13F	May	548	47F	Sep	495	48F
Feb	1274	19F	Jun	300	55F	Oct	960	34F
Mar	1267	24F	Jul	234	58F	Nov	1302	22F
Apr	869	36F	Aug	280	56F	Dec	1575	14F

Base name: Alabama Ordnance Works

State: AL - Alabama

Last changed: 09/01/88

Latitude: 33d 20m Longitude: 86d 21m ID code: AL-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Birmingham Map, AL

Annual heating degree days: 2806

Winter heating design temperature (97.5%): 23F

Annual average outdoor temperature: 63F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	602	45F	May	50	71F	Sep	23	74F
Feb	450	48F	Jun	7	78F	Oct	174	63F
Mar	372	53F	Jul	1	80F	Nov	404	52F
Apr	164	63F	Aug	2	79F	Dec	595	45F

Base name: Anniston Army Depot

State: AL - Alabama

Last changed: 09/01/88

Latitude: 33d 37m Longitude: 85d 58m ID code: AL-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Birmingham Map, AL

Annual heating degree days: 2806

Winter heating design temperature (97.5%): 22F

Annual average outdoor temperature: 63F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	602	45F	May	50	71F	Sep	23	74F
Feb	450	48F	Jun	7	78F	Oct	174	63F
Mar	372	53F	Jul	1	80F	Nov	404	52F
Apr	164	63F	Aug	2	79F	Dec	595	45F

Base name: Fort McClellan / Reilly AAF

State: AL - Alabama

Last changed: 09/01/88

Latitude: 33d 43m Longitude: 85d 47m ID code: AL-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Birmingham Map, AL

Annual heating degree days: 2806

Winter heating design temperature (97.5%): 22F

Annual average outdoor temperature: 63F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	602	45F	May	50	71F	Sep	23	74F
Feb	450	48F	Jun	7	78F	Oct	174	63F
Mar	372	53F	Jul	1	80F	Nov	404	52F
Apr	164	63F	Aug	2	79F	Dec	595	45F

Base name: Fort Rucker / Cairns AAF

State: AL - Alabama

Last changed: 09/01/88

Latitude: 31d 16m Longitude: 85d 43m ID code: AL-4

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 1968

Winter heating design temperature (97.5%): 27F

Annual average outdoor temperature: 66F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	497	48F	May	26	73F	Sep	9	76F
Feb	383	51F	Jun	2	78F	Oct	91	67F
Mar	274	57F	Jul	0	79F	Nov	172	60F
Apr	88	67F	Aug	0	79F	Dec	426	51F

Base name: Hunter Loop Comm. Facility

State: AL - Alabama

Last changed: 09/01/88

Latitude: 32d 23m Longitude: 86d 24m ID code: AL-5

County:

Base in a non-attainment area: N

Comment: Weather Data From Birmingham Map, AL

Annual heating degree days: 2153

Winter heating design temperature (97.5%): 25F

Annual average outdoor temperature: 63F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	602	45F	May	50	71F	Sep	23	74F
Feb	450	48F	Jun	7	78F	Oct	174	63F
Mar	372	53F	Jul	1	80F	Nov	404	52F
Apr	164	63F	Aug	2	79F	Dec	595	45F

Base name: Huntsville

State: AL - Alabama

Last changed: 09/01/88

Latitude: 34d 42m Longitude: 86d 35m ID code: AL-6

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 3302

Winter heating design temperature (97.5%): 16F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	760	39F	May	60	71F	Sep	26	73F
Feb	548	44F	Jun	7	76F	Oct	175	63F
Mar	436	51F	Jul	1	79F	Nov	418	51F
Apr	177	62F	Aug	2	79F	Dec	691	41F

Base name: Mobile / Bates Field

State: AL - Alabama

Last changed: 09/01/88

Latitude: 30d 41m Longitude: 88d 15m ID code: AL-7

County:

Base in a non-attainment area: N

Comment: Weather Data From Keesler AFB, MS

Annual heating degree days: 1684

Winter heating design temperature (97.5%): 31F

Annual average outdoor temperature: 68F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	714	52F	May	16	76F	Sep	3	78F
Feb	497	56F	Jun	0	81F	Oct	117	69F
Mar	348	60F	Jul	0	83F	Nov	414	59F
Apr	104	69F	Aug	0	82F	Dec	675	53F

Base name: Montgomery / Dannelly Field

State: AL - Alabama

Last changed: 09/01/88

Latitude: 32d 18m Longitude: 86d 24m ID code: AL-8

County:

Base in a non-attainment area: N

Comment: Weather Data From Fort Benning, GA

Annual heating degree days: 2269

Winter heating design temperature (97.5%): 24F

Annual average outdoor temperature: 63F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	545	45F	May	46	71F	Sep	18	74F
Feb	420	48F	Jun	5	77F	Oct	134	64F
Mar	318	54F	Jul	1	79F	Nov	316	54F
Apr	121	65F	Aug	1	78F	Dec	481	47F

Base name: Redstone Arsenal

State: AL - Alabama

Last changed: 09/01/88

Latitude: 34d 39m Longitude: 86d 41m ID code: AL-9

County:

Base in a non-attainment area: N

Comment: Weather Data From Huntsville, AL

Annual heating degree days: 3302

Winter heating design temperature (97.5%): 16F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	760	39F	May	60	71F	Sep	26	73F
Feb	548	44F	Jun	7	76F	Oct	175	63F
Mar	436	51F	Jul	1	79F	Nov	418	51F
Apr	177	62F	Aug	2	79F	Dec	691	41F

Base name: Phosphate Development Works, Sheffield

State: AL - Alabama

Last changed: 09/01/88

Latitude: 34d 46m Longitude: 87d 42m ID code: AL-10

County:

Base in a non-attainment area: N

Comment: Weather Data From Huntsville,AL & 97.5% Temp. From Skeffield

Annual heating degree days: 3302

Winter heating design temperature (97.5%): 21F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	760	39F	May	60	71F	Sep	26	73F
Feb	548	44F	Jun	7	76F	Oct	175	63F
Mar	436	51F	Jul	1	79F	Nov	418	51F
Apr	177	62F	Aug	2	79F	Dec	691	41F



Base name: Fort Chaffee

State: AR - Arkansas

Last changed: 09/01/88

Latitude: 35d 18m Longitude: 94d 17m ID code: AR-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Fort Smith, AR

Annual heating degree days: 3336

Winter heating design temperature (97.5%): 17F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	743	39F	May	55	71F	Sep	31	74F
Feb	540	44F	Jun	7	78F	Oct	123	65F
Mar	446	50F	Jul	1	82F	Nov	511	49F
Apr	191	61F	Aug	0	87F	Dec	688	40F

Base name: Pine Bluff Arsenal

State: AR - Arkansas

Last changed: 09/01/88

Latitude: 34d 18m Longitude: 92d 5m ID code: AR-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Little Rock / Adams Field, AR

Annual heating degree days: 2588

Winter heating design temperature (97.5%): 22F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	755	39F	May	54	70F	Sep	28	74F
Feb	594	42F	Jun	6	78F	Oct	167	63F
Mar	444	51F	Jul	2	81F	Nov	392	52F
Apr	146	63F	Aug	3	79F	Dec	650	43F

Base name: Fort Huachuca / Libby AAF

State: AZ - Arizona

Last changed: 09/01/88

Latitude: 31d 35m Longitude: 110d 20m

ID code: AZ-1

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 2551

Winter heating design temperature (97.5%): 28F

Annual average outdoor temperature: 62F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	520	46F	May	71	69F	Sep	26	72F
Feb	415	48F	Jun	12	77F	Oct	135	64F
Mar	349	53F	Jul	2	77F	Nov	332	53F
Apr	178	61F	Aug	6	75F	Dec	504	46F

Base name: Navajo Army Depot

State: AZ - Arizona

Last changed: 09/01/88

Latitude: 35d 14m Longitude: 111d 50m

ID code: AZ-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Flagstaff, AZ

Annual heating degree days: 7322

Winter heating design temperature (97.5%): 4F

Annual average outdoor temperature: 46F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1142	28F	May	425	52F	Sep	278	58F
Feb	949	31F	Jun	212	61F	Oct	519	49F
Mar	941	34F	Jul	106	67F	Nov	878	35F
Apr	636	44F	Aug	153	63F	Dec	1084	30F

Base name: Yuma Test Station

State: AZ - Arizona

Last changed: 09/01/88

Latitude: 32d 52m Longitude: 114d 26m

ID code: AZ-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Yuma MCAS, AZ

Annual heating degree days: 1005

Winter heating design temperature (97.5%): 39F

Annual average outdoor temperature: 74F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	270	55F	May	16	79F	Sep	0	88F
Feb	168	60F	Jun	1	88F	Oct	18	77F
Mar	124	64F	Jul	0	93F	Nov	128	63F
Apr	45	72F	Aug	0	92F	Dec	235	57F

Base name: Camp Parks Comm. Annex

State: CA - California

Last changed: 09/01/88

Latitude: 37d 44m Longitude: 121d 53m

ID code: CA-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Travis AFB / Fairfield, CA

Annual heating degree days: 2725

Winter heating design temperature (97.5%): 27F

Annual average outdoor temperature: 59F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	502	45F	May	158	61F	Sep	66	69F
Feb	328	51F	Jun	86	67F	Oct	135	63F
Mar	317	53F	Jul	64	70F	Nov	287	54F
Apr	236	57F	Aug	58	70F	Dec	486	46F

Base name: Camp Roberts

State: CA - California

Last changed: 09/01/88

Latitude: 35d 48m Longitude: 120d 45m

ID code: CA-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Vandenburg AFB / Lompoc, CA

Annual heating degree days: 3451

Winter heating design temperature (97.5%): 27F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	387	51F	May	327	54F	Sep	176	59F
Feb	336	52F	Jun	253	56F	Oct	199	59F
Mar	367	52F	Jul	227	57F	Nov	272	55F
Apr	331	53F	Aug	189	59F	Dec	387	51F

Base name: Fort Baker

State: CA - California

Last changed: 09/01/88

Latitude: 37d 50m Longitude: 122d 28m

ID code: CA-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Travis AFB / Fairfield, CA

Annual heating degree days: 2725

Winter heating design temperature (97.5%): 40F

Annual average outdoor temperature: 59F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	502	45F	May	158	61F	Sep	66	69F
Feb	328	51F	Jun	86	67F	Oct	135	63F
Mar	317	53F	Jul	64	70F	Nov	287	54F
Apr	236	57F	Aug	58	70F	Dec	486	46F

Base name: Fort Irvine  
 State: CA - California Last changed: 09/01/88  
 Latitude: 35d 16m Longitude: 116d 41m ID code: CA-4  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Edwards AFB, CA

Annual heating degree days: 3077  
 Winter heating design temperature (97.5%): 29F  
 Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	597	42F	May	129	65F	Sep	55	73F
Feb	425	47F	Jun	41	75F	Oct	189	62F
Mar	369	51F	Jul	6	83F	Nov	401	49F
Apr	253	57F	Aug	10	81F	Dec	602	42F

Base name: Fort Ord / Fritzsche AAF  
 State: CA - California Last changed: 09/01/88  
 Latitude: 36d 41m Longitude: 121d 46m ID code: CA-5  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Alameda NAS / Nimitz Field, CA

Annual heating degree days: 2507  
 Winter heating design temperature (97.5%): 32F  
 Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	392	49F	May	194	58F	Sep	88	64F
Feb	269	53F	Jun	129	61F	Oct	124	62F
Mar	267	54F	Jul	126	61F	Nov	218	56F
Apr	226	56F	Aug	109	62F	Dec	364	50F

Base name: Hunter Liggett Mil Rsvn  
 State: CA - California Last changed: 09/01/88  
 Latitude: 36d 1m Longitude: 121d 14m ID code: CA-6  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Vandenberg AFB / Lompoc, CA

Annual heating degree days: 3451  
 Winter heating design temperature (97.5%): 26F  
 Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	387	51F	May	327	54F	Sep	176	59F
Feb	336	52F	Jun	253	56F	Oct	199	59F
Mar	367	52F	Jul	227	57F	Nov	272	55F
Apr	331	53F	Aug	189	59F	Dec	387	51F

Base name: Letterman Army Hospital  
State: CA - California Last changed: 09/01/88  
Latitude: 37d 48m Longitude: 122d 27m ID code: CA-7  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Travis AFB / Fairfield, CA

Annual heating degree days: 2725  
Winter heating design temperature (97.5%): 40F  
Annual average outdoor temperature: 59F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	502	45F	May	158	61F	Sep	66	63F
Feb	328	51F	Jun	86	67F	Oct	135	54F
Mar	317	53F	Jul	64	70F	Nov	287	46F
Apr	236	57F	Aug	58	69F	Dec	486	45F

Base name: Monterey  
State: CA - California Last changed: 09/01/88  
Latitude: 36d 36m Longitude: 121d 54m ID code: CA-8  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Alameda NAS / Nimitz Field, CA

Annual heating degree days: 2507  
Winter heating design temperature (97.5%): 38F  
Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	392	49F	May	194	58F	Sep	88	64F
Feb	269	53F	Jun	129	61F	Oct	124	62F
Mar	267	54F	Jul	126	61F	Nov	218	56F
Apr	226	56F	Aug	109	62F	Dec	364	50F

Base name: Oakland Army Base  
State: CA - California Last changed: 09/01/88  
Latitude: 37d 49m Longitude: 122d 19m ID code: CA-9  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Travis AFB / Fairfield, CA

Annual heating degree days: 2725  
Winter heating design temperature (97.5%): 36F  
Annual average outdoor temperature: 59F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	502	45F	May	158	61F	Sep	66	69F
Feb	328	51F	Jun	86	67F	Oct	135	63F
Mar	317	53F	Jul	64	70F	Nov	287	54F
Apr	236	57F	Aug	58	70F	Dec	486	46F

Base name: Riverbank Army Ammunition Plant

State: CA - California

Last changed: 09/01/88

Latitude: 37d 43m Longitude: 120d 55m

ID code: CA-10

County:

Base in a non-attainment area: N

Comment: Weather Data From Castle AFB / Merced, CA

Annual heating degree days: 2590

Winter heating design temperature (97.5%): 31F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	531	44F	May	109	66F	Sep	41	72F
Feb	350	50F	Jun	41	74F	Oct	138	63F
Mar	303	54F	Jul	12	80F	Nov	318	53F
Apr	204	59F	Aug	16	78F	Dec	527	44F

Base name: Sacramento Army Depot

State: CA - California

Last changed: 09/01/88

Latitude: 38d 31m Longitude: 121d 24m

ID code: CA-11

County:

Base in a non-attainment area: N

Comment: Weather Data From McClellan AFB / Sacramento, CA

Annual heating degree days: 2566

Winter heating design temperature (97.5%): 31F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	509	45F	May	126	64F	Sep	49	71F
Feb	337	50F	Jun	56	72F	Oct	135	63F
Mar	309	53F	Jul	24	77F	Nov	295	53F
Apr	216	58F	Aug	23	76F	Dec	486	46F

Base name: San Francisco / Presidio

State: CA - California

Last changed: 09/01/88

Latitude: 37d 48m Longitude: 122d 28m

ID code: CA-12

County:

Base in a non-attainment area: N

Comment: Weather Data From Travis AFB / Fairfield, CA

Annual heating degree days: 2725

Winter heating design temperature (97.5%): 40F

Annual average outdoor temperature: 59F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	502	45F	May	158	61F	Sep	66	69F
Feb	328	51F	Jun	86	67F	Oct	135	63F
Mar	317	53F	Jul	64	70F	Nov	287	54F
Apr	236	57F	Aug	58	70F	Dec	486	46F

Base name: Sharpe Army Depot

State: CA - California

Last changed: 09/01/88

Latitude: 37d 51m Longitude: 121d 17m

ID code: CA-13

County:

Base in a non-attainment area: N

Comment: Weather Data From Castle AFB / Merced, CA

Annual heating degree days: 2590

Winter heating design temperature (97.5%): 30F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	531	44F	May	109	66F	Sep	41	72F
Feb	350	50F	Jun	41	74F	Oct	138	63F
Mar	303	54F	Jul	12	80F	Nov	318	53F
Apr	204	59F	Aug	16	78F	Dec	527	44F

Base name: Sierra Army Depot

State: CA - California

Last changed: 09/01/88

Latitude: 40d 9m Longitude: 120d 7m

ID code: CA-14

County:

Base in a non-attainment area: N

Comment: Weather Data From Beale AFB / Marysville, CA

Annual heating degree days: 2835

Winter heating design temperature (97.5%): 11F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	580	44F	May	118	65F	Sep	44	73F
Feb	381	50F	Jun	47	74F	Oct	148	63F
Mar	348	53F	Jul	16	79F	Nov	336	53F
Apr	242	58F	Aug	17	78F	Dec	557	45F

Base name: Sixth Army HQ, San Francisco

State: CA - California

Last changed: 09/01/88

Latitude: 37d 37m Longitude: 122d 23m

ID code: CA-15

County:

Base in a non-attainment area: N

Comment: Weather Data From Travis AFB / Fairfield, CA

Annual heating degree days: 2725

Winter heating design temperature (97.5%): 38F

Annual average outdoor temperature: 59F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	502	45F	May	158	61F	Sep	66	69F
Feb	328	51F	Jun	86	67F	Oct	135	63F
Mar	317	53F	Jul	64	70F	Nov	287	54F
Apr	236	57F	Aug	58	70F	Dec	486	46F

Base name: National Training Center, Barslow  
State: CA - California Last changed: 09/01/88  
Latitude: 34d 51m Longitude: 116d 47m ID code: CA-16  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Edwards AFB, CA

Annual heating degree days: 3077  
Winter heating design temperature (97.5%): 29F  
Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	597	42F	May	129	65F	Sep	55	73F
Feb	425	47F	Jun	41	75F	Oct	189	62F
Mar	369	51F	Jul	6	83F	Nov	401	49F
Apr	253	57F	Aug	10	81F	Dec	602	42F



Base name: Fitzsimons Army Medical Center  
 State: CO - Colorado Last changed: 09/01/88  
 Latitude: 39d 45m Longitude: 104d 50m ID code: CO-1  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Buckley ANGB / Denver, CO

Annual heating degree days: 6239  
 Winter heating design temperature (97.5%): 1F  
 Annual average outdoor temperature: 49F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1040	29F	May	307	56F	Sep	213	61F
Feb	867	32F	Jun	144	65F	Oct	471	50F
Mar	858	35F	Jul	44	72F	Nov	723	39F
Apr	532	46F	Aug	64	70F	Dec	975	31F

Base name: Fort Carson / Butts AAF  
 State: CO - Colorado Last changed: 09/01/88  
 Latitude: 38d 41m Longitude: 104d 46m ID code: CO-2  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Colorado Springs / Peterson, CO

Annual heating degree days: 6473  
 Winter heating design temperature (97.5%): 3F  
 Annual average outdoor temperature: 49F

	MHDD	Tam.		MHDD	Tam		MHDD	Tam
Jan	1075	29F	May	330	56F	Sep	206	62F
Feb	882	32F	Jun	128	66F	Oct	441	52F
Mar	898	35F	Jul	58	70F	Nov	812	37F
Apr	579	46F	Aug	73	69F	Dec	993	32F

Base name: Pueblo Army Depot  
 State: CO - Colorado Last changed: 09/01/88  
 Latitude: 38d 17m Longitude: 104d 21m ID code: CO-3  
 County:  
 Base in a non-attainment area: N  
 Comment:

Annual heating degree days: 5394  
 Winter heating design temperature (97.5%): 0F  
 Annual average outdoor temperature: 52F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1056	27F	May	189	62F	Sep	133	66F
Feb	809	33F	Jun	65	71F	Oct	347	55F
Mar	732	39F	Jul	21	76F	Nov	696	39F
Apr	419	51F	Aug	29	74F	Dec	898	33F

Base name: Rocky Mountain Arsenal

State: CO - Colorado

Last changed: 09/01/88

Latitude: 39d 50m Longitude: 104d 53m

ID code: CO-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Buckley ANGB / Denver, CO

Annual heating degree days: 6239

Winter heating design temperature (97.5%): 1F

Annual average outdoor temperature: 49F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1040	29F	May	307	56F	Sep	213	61F
Feb	867	32F	Jun	144	65F	Oct	471	50F
Mar	858	35F	Jul	44	72F	Nov	723	39F
Apr	532	46F	Aug	64	70F	Dec	975	31F

Base name: Stratford Army Engine Plant

State: CT - Connecticut

Last changed: 09/01/88

Latitude: 41d 11m Longitude: 73d 11m ID code: CT-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Newark IAP And 97.5% Temp. From Bridgeport

Annual heating degree days: 5034

Winter heating design temperature (97.5%): 9F

Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	980	32F	May	181	62F	Sep	79	67F
Feb	848	34F	Jun	37	71F	Oct	267	57F
Mar	754	40F	Jul	5	76F	Nov	548	46F
Apr	409	52F	Aug	11	74F	Dec	916	35F

Base name: Atlanta Army Depot

State: GA - Georgia

Last changed: 09/01/88

Latitude: 33d 37m Longitude: 84d 19m ID code: GA-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Atlanta / Hartsfield IAP, GA

Annual heating degree days: 3095

Winter heating design temperature (97.5%): 22F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	652	43F	May	52	70F	Sep	25	72F
Feb	512	47F	Jun	6	76F	Oct	166	62F
Mar	429	51F	Jul	1	78F	Nov	419	51F
Apr	184	61F	Aug	1	78F	Dec	648	44F

Base name: Fort Benning / Lawson AAF

State: GA - Georgia

Last changed: 09/01/88

Latitude: 32d 21m Longitude: 85d 0m ID code: GA-2

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 2406

Winter heating design temperature (97.5%): 24F

Annual average outdoor temperature: 63F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	545	45F	May	46	71F	Sep	18	74F
Feb	420	48F	Jun	5	77F	Oct	134	64F
Mar	318	54F	Jul	1	79F	Nov	316	54F
Apr	121	65F	Aug	1	78F	Dec	481	47F

Base name: Fort Gordon

State: GA - Georgia

Last changed: 09/01/88

Latitude: 33d 26m Longitude: 82d 11m ID code: GA-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Augusta / Bush Field, GA

Annual heating degree days: 2547

Winter heating design temperature (97.5%): 23F

Annual average outdoor temperature: 63F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	547	45F	May	49	72F	Sep	22	74F
Feb	406	49F	Jun	7	78F	Oct	170	63F
Mar	326	54F	Jul	1	80F	Nov	342	53F
Apr	144	64F	Aug	2	79F	Dec	532	46F

Base name: Fort McPherson / Atlanta

State: GA - Georgia

Last changed: 09/01/88

Latitude: 33d 42m Longitude: 84d 26m

ID code: GA-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Atlanta / Hartsfield IAP, GA

Annual heating degree days: 3095

Winter heating design temperature (97.5%): 22F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	652	43F	May	52	70F	Sep	25	72F
Feb	512	47F	Jun	6	76F	Oct	166	62F
Mar	429	51F	Jul	1	78F	Nov	419	51F
Apr	184	61F	Aug	1	78F	Dec	648	44F

Base name: Fort Stewart / Wright AAF

State: GA - Georgia

Last changed: 09/01/88

Latitude: 31d 52m Longitude: 81d 37m

ID code: GA-5

County:

Base in a non-attainment area: N

Comment: Weather Data From Hunter AAF / Savannah, GA

Annual heating degree days: 2029

Winter heating design temperature (97.5%): 26F

Annual average outdoor temperature: 66F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	478	49F	May	22	73F	Sep	5	76F
Feb	340	53F	Jun	3	78F	Oct	101	66F
Mar	267	58F	Jul	0	80F	Nov	252	58F
Apr	102	66F	Aug	0	80F	Dec	458	50F

Base name: Hunter AAF / Savannah

State: GA - Georgia

Last changed: 09/01/88

Latitude: 32d 1m Longitude: 81d 8m

ID code: GA-6

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 2029

Winter heating design temperature (97.5%): 27F

Annual average outdoor temperature: 66F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	478	49F	May	22	73F	Sep	5	76F
Feb	340	53F	Jun	3	78F	Oct	101	66F
Mar	267	58F	Jul	0	80F	Nov	252	58F
Apr	102	66F	Aug	0	80F	Dec	458	50F

Base name: Fort Gillem

State: GA - Georgia

Last changed: 09/01/88

Latitude: 0d 0m Longitude: 0d 0m ID code: GA-7

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Atlanta / Hartsfield IAP

Annual heating degree days: 3095

Winter heating design temperature (97.5%): 22F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	652	43F	May	52	70F	Sep	25	72F
Feb	512	47F	Jun	6	76F	Oct	166	62F
Mar	429	51F	Jul	1	78F	Nov	419	51F
Apr	184	61F	Aug	1	78F	Dec	648	44F

Base name: Eisenhower Army Medical Center, Augusta

State: GA - Georgia

Last changed: 09/01/88

Latitude: 33d 22m Longitude: 81d 58m ID code: GA-8

County:

Base in a non-attainment area: N

Comment: Weather Data From Augusta / Bush Field, GA

Annual heating degree days: 2547

Winter heating design temperature (97.5%): 23F

Annual average outdoor temperature: 63F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	547	45F	May	49	72F	Sep	22	74F
Feb	406	49F	Jun	7	78F	Oct	170	63F
Mar	326	54F	Jul	1	80F	Nov	342	53F
Apr	144	64F	Aug	2	79F	Dec	532	46F

Base name: Fort Shafter

State: HI - Hawaii

Last changed: 09/01/88

Latitude: 21d 21m Longitude: 157d 53m

ID code: HI-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Barbers Point NAS, HI

Annual heating degree days: 1

Winter heating design temperature (97.5%): 63F

Annual average outdoor temperature: 75F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	0	72F	May	0	75F	Sep	0	78F
Feb	0	71F	Jun	0	77F	Oct	0	77F
Mar	0	72F	Jul	0	78F	Nov	0	75F
Apr	0	73F	Aug	0	78F	Dec	0	73F

Base name: Schofield Barracks

State: HI - Hawaii

Last changed: 09/01/88

Latitude: 21d 30m Longitude: 158d 2m

ID code: HI-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Barbers Point NAS, HI

Annual heating degree days: 1

Winter heating design temperature (97.5%): 59F

Annual average outdoor temperature: 75F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	0	72F	May	0	75F	Sep	0	78F
Feb	0	71F	Jun	0	77F	Oct	0	77F
Mar	0	72F	Jul	0	78F	Nov	0	75F
Apr	0	73F	Aug	0	78F	Dec	0	73F

Base name: Pohakuloa Training Area, Hilo

State: HI - Hawaii

Last changed: 09/01/88

Latitude: 19d 43m Longitude: 155d 5m

ID code: HI-3

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Barbers Point NAS, HI

Annual heating degree days: 1

Winter heating design temperature (97.5%): 62F

Annual average outdoor temperature: 75F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	0	72F	May	0	75F	Sep	0	78F
Feb	0	71F	Jun	0	77F	Oct	0	77F
Mar	0	72F	Jul	0	78F	Nov	0	75F
Apr	0	73F	Aug	0	78F	Dec	0	73F

Base name: Tripler Army Medical Center, Honolulu  
State: HI - Hawaii Last changed: 09/01/88  
Latitude: 22d 21m Longitude: 157d 54m ID code: HI-4  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Barbers Point NAS, HI

Annual heating degree days: 1  
Winter heating design temperature (97.5%): 63F  
Annual average outdoor temperature: 75F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	0	72F	May	0	75F	Sep	0	78F
Feb	0	71F	Jun	0	77F	Oct	0	77F
Mar	0	72F	Jul	0	78F	Nov	0	75F
Apr	0	73F	Aug	0	78F	Dec	0	73F



Base name: Iowa Army Ammunition Plant

State: IA - Iowa

Last changed: 09/01/88

Latitude: 40d 49m

Longitude: 91d 15m

ID code: IA-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Moline / Quad City Appt, IL

Annual heating degree days: 6395

Winter heating design temperature (97.5%): -3F

Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1302	22F	May	184	62F	Sep	136	65F
Feb	1034	27F	Jun	48	72F	Oct	361	55F
Mar	910	35F	Jul	17	75F	Nov	761	39F
Apr	463	50F	Aug	10	75F	Dec	1168	26F

Base name: Fort Sheridan / Haley AAF

State: IL - Illinois

Last changed: 09/01/88

Latitude: 42d 13m Longitude: 87d 49m

ID code: IL-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Glenview NAS, IL

Annual heating degree days: 6582

Winter heating design temperature (97.5%): 0F

Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1340	21F	May	242	65F	Sep	125	65F
Feb	1087	26F	Jun	83	69F	Oct	366	54F
Mar	917	35F	Jul	21	73F	Nov	731	40F
Apr	509	48F	Aug	32	72F	Dec	1130	28F

Base name: St. Louis Area Support Center, Granite City

State: IL - Illinois

Last changed: 09/01/88

Latitude: 38d 41m Longitude: 90d 11m

ID code: IL-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Scott AFB, IL

Annual heating degree days: 4855

Winter heating design temperature (97.5%): 8F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1048	29F	May	122	65F	Sep	79	68F
Feb	844	33F	Jun	23	74F	Oct	274	58F
Mar	681	42F	Jul	8	77F	Nov	575	45F
Apr	298	56F	Aug	18	75F	Dec	886	35F

Base name: Rock Island Arsenal

State: IL - Illinois

Last changed: 09/01/88

Latitude: 41d 31m Longitude: 90d 33m

ID code: IL-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Moline / Quad City Aprt, IL

Annual heating degree days: 6395

Winter heating design temperature (97.5%): -3F

Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1302	22F	May	184	62F	Sep	136	65F
Feb	1034	27F	Jun	48	72F	Oct	361	55F
Mar	910	35F	Jul	17	75F	Nov	761	39F
Apr	463	50F	Aug	10	75F	Dec	1168	26F

Base name: Savanna Army Depot

State: IL - Illinois

Last changed: 09/01/88

Latitude: 42d 11m Longitude: 90d 15m ID code: IL-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Moline / Quad City Aprt, IL

Annual heating degree days: 6395

Winter heating design temperature (97.5%): -7F

Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1302	22F	May	184	62F	Sep	136	65F
Feb	1034	27F	Jun	48	72F	Oct	361	55F
Mar	910	35F	Jul	17	75F	Nov	761	39F
Apr	463	50F	Aug	10	75F	Dec	1168	26F

Base name: Joliet Army Ammunition Plant

State: IL - Illinois

Last changed: 09/01/88

Latitude: 41d 31m Longitude: 88d 4m ID code: IL-5

County:

Base in a non-attainment area: N

Comment: Weather Data From O'Hare IAP & 97.5% Temp. From Joliet MAP

Annual heating degree days: 6497

Winter heating design temperature (97.5%): -4F

Annual average outdoor temperature: 49F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1245	23F	May	254	59F	Sep	142	64F
Feb	1018	27F	Jun	81	69F	Oct	374	53F
Mar	904	34F	Jul	26	73F	Nov	756	39F
Apr	509	48F	Aug	40	71F	Dec	1150	26F

Base name: Crane Army Ammunition Plant, Crane  
State: IN - Indiana Last changed: 09/01/88  
Latitude: 39d 22m Longitude: 86d 3m ID code: IN-1  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Terre Haute / Hulman Field, IN

Annual heating degree days: 5351  
Winter heating design temperature (97.5%): 9F  
Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1003	32F	May	165	63F	Sep	128	65F
Feb	826	35F	Jun	29	74F	Oct	335	56F
Mar	744	41F	Jul	12	76F	Nov	692	42F
Apr	414	52F	Aug	30	73F	Dec	972	33F

Base name: Fort Benjamin Harrison  
State: IN - Indiana Last changed: 09/01/88  
Latitude: 39d 51m Longitude: 86d 0m ID code: IN-2  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Terre Haute / Hulman Field, IN

Annual heating degree days: 5351  
Winter heating design temperature (97.5%): 2F  
Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1003	32F	May	165	63F	Sep	128	65F
Feb	826	35F	Jun	29	74F	Oct	335	56F
Mar	744	41F	Jul	12	76F	Nov	692	42F
Apr	414	52F	Aug	30	73F	Dec	972	33F

Base name: Indiana Army Ammunition Plant  
State: IN - Indiana Last changed: 09/01/88  
Latitude: 38d 25m Longitude: 85d 39m ID code: IN-3  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Evansville, IN

Annual heating degree days: 4624  
Winter heating design temperature (97.5%): 10F  
Annual average outdoor temperature: 56F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	932	33F	May	115	66F	Sep	83	69F
Feb	741	37F	Jun	24	75F	Oct	288	58F
Mar	622	44F	Jul	7	78F	Nov	604	44F
Apr	300	57F	Aug	17	76F	Dec	890	35F

Base name: Jefferson Proving Ground

State: IN - Indiana

Last changed: 09/01/88

Latitude: 38d 50m Longitude: 85d 25m ID code: IN-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Evansville, IN

Annual heating degree days: 4624

Winter heating design temperature (97.5%): 7F

Annual average outdoor temperature: 56F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	932	33F	May	115	66F	Sep	83	69F
Feb	741	37F	Jun	24	75F	Oct	288	58F
Mar	622	44F	Jul	7	78F	Nov	604	44F
Apr	300	57F	Aug	17	76F	Dec	890	35F

Base name: Newport Army Ammunition Plant, Newport

State: IN - Indiana

Last changed: 09/01/88

Latitude: 39d 52m Longitude: 87d 26m ID code: IN-5

County:

Base in a non-attainment area: N

Comment: Weather Data From Terre Haute / Hulman Field, IN

Annual heating degree days: 5351

Winter heating design temperature (97.5%): 4F

Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1003	32F	May	165	63F	Sep	128	65F
Feb	826	35F	Jun	29	74F	Oct	335	56F
Mar	744	41F	Jul	12	76F	Nov	692	42F
Apr	414	52F	Aug	30	73F	Dec	972	33F

Base name: Fort Leavenworth / Sherman AAF  
 State: KS - Kansas Last changed: 09/01/88  
 Latitude: 39d 22m Longitude: 94d 55m ID code: KS-1  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Richards-Gebaur AFB, MO

Annual heating degree days: 5218  
 Winter heating design temperature (97.5%): 3F  
 Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1125	27F	May	131	65F	Sep	92	67F
Feb	888	32F	Jun	29	72F	Oct	287	57F
Mar	735	40F	Jul	8	76F	Nov	616	43F
Apr	332	55F	Aug	17	75F	Dec	958	32F

Base name: Fort Riley / Marshall AAF  
 State: KS - Kansas Last changed: 09/01/88  
 Latitude: 39d 3m Longitude: 96d 46m ID code: KS-2  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Forbes ANGB / Topeka, KS

Annual heating degree days: 5309  
 Winter heating design temperature (97.5%): 3F  
 Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1152	26F	May	134	65F	Sep	95	67F
Feb	898	32F	Jun	27	73F	Oct	292	57F
Mar	740	40F	Jul	7	78F	Nov	634	43F
Apr	338	55F	Aug	14	76F	Dec	978	32F

Base name: Kansas Army Ammunition Plant  
 State: KS - Kansas Last changed: 09/01/88  
 Latitude: 37d 20m Longitude: 95d 13m ID code: KS-3  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From McConnell AFB / Wichita, KS

Annual heating degree days: 4695  
 Winter heating design temperature (97.5%): 9F  
 Annual average outdoor temperature: 56F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1033	30F	May	107	66F	Sep	66	70F
Feb	808	35F	Jun	18	75F	Oct	242	59F
Mar	659	43F	Jul	4	80F	Nov	571	45F
Apr	289	57F	Aug	7	78F	Dec	889	35F

Base name: Sunflower Army Ammunition Plant, Lawrence

State: KS - Kansas

Last changed: 09/01/88

Latitude: 38d 56m Longitude: 95d 0m ID code: KS-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Richards-Gebaur AFB, MO

Annual heating degree days: 5030

Winter heating design temperature (97.5%): 3F

Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1125	27F	May	131	65F	Sep	92	67F
Feb	888	32F	Jun	29	72F	Oct	287	57F
Mar	735	40F	Jul	8	76F	Nov	616	43F
Apr	332	55F	Aug	17	75F	Dec	958	32F

Base name: Fort Knox / Godman AAF

State: KY - Kentucky

Last changed: 09/01/88

Latitude: 37d 54m Longitude: 85d 58m ID code: KY-1

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 4616

Winter heating design temperature (97.5%): 7F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	972	31F	May	118	65F	Sep	76	68F
Feb	804	34F	Jun	24	73F	Oct	273	57F
Mar	646	43F	Jul	8	76F	Nov	553	45F
Apr	279	57F	Aug	16	75F	Dec	846	36F

Base name: Lexington-Blue Grass Army Depot

State: KY - Kentucky

Last changed: 09/01/88

Latitude: 38d 2m Longitude: 84d 36m ID code: KY-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Fort Knox / Godman AAF, KY

Annual heating degree days: 4616

Winter heating design temperature (97.5%): 8F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	972	31F	May	118	65F	Sep	76	68F
Feb	804	34F	Jun	24	73F	Oct	273	57F
Mar	646	43F	Jul	8	76F	Nov	553	45F
Apr	279	57F	Aug	16	75F	Dec	846	36F

Base name: Blue Grass Army Depot

State: KY - Kentucky

Last changed: 09/01/88

Latitude: 37d 41m Longitude: 84d 14m ID code: KY-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Fort Knox / Godman AAF, KY

Annual heating degree days: 4616

Winter heating design temperature (97.5%): 8F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	972	31F	May	118	65F	Sep	76	68F
Feb	804	34F	Jun	24	73F	Oct	273	57F
Mar	646	43F	Jul	8	76F	Nov	553	45F
Apr	279	57F	Aug	16	75F	Dec	846	36F



Base name: Fort Polk / Polk AAF

State: LA - Louisiana

Last changed: 09/01/88

Latitude: 31d 3m Longitude: 93d 11m

ID code: LA-1

County:

Base in a non-attainment area: N

Comment: Weather Data From England AFB, LA

Annual heating degree days: 1964

Winter heating design temperature (97.5%): 27F

Annual average outdoor temperature: 66F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	474	47F	May	23	73F	Sep	13	76F
Feb	370	50F	Jun	2	79F	Oct	103	66F
Mar	257	57F	Jul	0	81F	Nov	244	57F
Apr	80	67F	Aug	1	81F	Dec	398	51F

Base name: Louisiana Army Ammunition Plant

State: LA - Louisiana

Last changed: 09/01/88

Latitude: 32d 34m Longitude: 93d 34m

ID code: LA-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Barksdale AFB / Shreveport, LA

Annual heating degree days: 2337

Winter heating design temperature (97.5%): 24F

Annual average outdoor temperature: 64F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	553	44F	May	33	72F	Sep	18	75F
Feb	417	48F	Jun	4	78F	Oct	126	65F
Mar	316	54F	Jul	1	81F	Nov	295	55F
Apr	104	65F	Aug	1	81F	Dec	469	47F

Base name: Fort Devens AAF

State: MA - Massachusetts

Last changed: 09/01/88

Latitude: 42d 34m Longitude: 71d 36m

ID code: MA-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Hanscomb AFB / Bedford, MA

Annual heating degree days: 6474

Winter heating design temperature (97.5%): 1F

Annual average outdoor temperature: 48F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1200	24F	May	281	57F	Sep	178	62F
Feb	1032	26F	Jun	103	66F	Oct	413	52F
Mar	889	35F	Jul	41	71F	Nov	673	41F
Apr	540	46F	Aug	63	69F	Dec	1061	29F

Base name: Natick Research And Development Center

State: MA - Massachusetts

Last changed: 09/01/88

Latitude: 42d 17m Longitude: 71d 22m

ID code: MA-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Hanscomb AFB / Bedford, MA

Annual heating degree days: 6474

Winter heating design temperature (97.5%): 2F

Annual average outdoor temperature: 48F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1200	24F	May	281	57F	Sep	178	62F
Feb	1032	26F	Jun	103	66F	Oct	413	52F
Mar	889	35F	Jul	41	71F	Nov	673	41F
Apr	540	46F	Aug	63	69F	Dec	1061	29F

Base name: Army Materials And Mechanics Research Center, Watertown

State: MA - Massachusetts

Last changed: 09/01/88

Latitude: 42d 28m Longitude: 71d 17m

ID code: MA-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Hanscom AFB / Bedford, MA

Annual heating degree days: 6474

Winter heating design temperature (97.5%): 3F

Annual average outdoor temperature: 48F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1200	24F	May	281	57F	Sep	178	62F
Feb	1032	26F	Jun	103	66F	Oct	413	52F
Mar	889	35F	Jul	41	71F	Nov	673	41F
Apr	540	46F	Aug	63	69F	Dec	1061	29F

Base name: Aberdeen Proving Ground / Phillips AAF  
 State: MD - Maryland Last changed: 09/01/88  
 Latitude: 39d 28m Longitude: 76d 10m ID code: MD-1  
 County:

Base in a non-attainment area: N

Comment: Weather Data From Patuxent River NAS, MD

Annual heating degree days: 4307

Winter heating design temperature (97.5%): 15F

Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	912	35F	May	116	65F	Sep	43	70F
Feb	775	37F	Jun	19	73F	Oct	206	59F
Mar	651	43F	Jul	1	77F	Nov	464	49F
Apr	320	55F	Aug	3	76F	Dec	798	39F

Base name: Fort Detrick, Fredrick

State: MD - Maryland Last changed: 09/01/88  
 Latitude: 39d 26m Longitude: 77d 26m ID code: MD-2  
 County:

Base in a non-attainment area: N

Comment: Weather Data From Patuxent River NAS, MD

Annual heating degree days: 4307

Winter heating design temperature (97.5%): 12F

Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	912	35F	May	116	65F	Sep	43	70F
Feb	775	37F	Jun	19	73F	Oct	206	59F
Mar	651	43F	Jul	1	77F	Nov	464	49F
Apr	320	55F	Aug	3	76F	Dec	798	39F

Base name: Harry Diamond Laboratories, Silver Springs

State: MD - Maryland Last changed: 09/01/88  
 Latitude: 38d 59m Longitude: 77d 1m ID code: MD-3  
 County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Patuxent River NAS, Pa

Annual heating degree days: 4307

Winter heating design temperature (97.5%): 18F

Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	912	35F	May	116	65F	Sep	43	70F
Feb	775	37F	Jun	19	73F	Oct	206	59F
Mar	651	43F	Jul	1	77F	Nov	464	49F
Apr	320	55F	Aug	3	76F	Dec	798	39F

Base name: Fort George G Meade

State: MD - Maryland

Last changed: 09/01/88

Latitude: 39d 5m Longitude: 76d 46m

ID code: MD-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Patuxent River, MD

Annual heating degree days: 4307

Winter heating design temperature (97.5%): 11F

Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	912	35F	May	116	65F	Sep	43	70F
Feb	775	37F	Jun	19	73F	Oct	206	59F
Mar	651	43F	Jul	1	77F	Nov	464	49F
Apr	320	55F	Aug	3	76F	Dec	798	39F

Base name: Detroit Arsenal

State: MI - Michigan

Last changed: 09/01/88

Latitude: 42d 30m Longitude: 83d 2m ID code: MI-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Traverse City

Annual heating degree days: 7689

Winter heating design temperature (97.5%): 6F

Annual average outdoor temperature: 45F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1329	22F	May	383	54F	Sep	224	59F
Feb	1184	22F	Jun	151	64F	Oct	472	50F
Mar	1117	28F	Jul	69	69F	Nov	825	37F
Apr	668	43F	Aug	85	67F	Dec	1189	26F

Base name: Camp Grayling, Grayling

State: MI - Michigan

Last changed: 09/01/88

Latitude: 44d 40m Longitude: 84d 42m ID code: MI-2

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Traverse City Aprt, MI

Annual heating degree days: 7698

Winter heating design temperature (97.5%): 1F

Annual average outdoor temperature: 45F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1329	22F	May	383	54F	Sep	224	59F
Feb	1184	22F	Jun	151	64F	Oct	472	50F
Mar	1117	28F	Jul	69	69F	Nov	825	37F
Apr	668	43F	Aug	85	67F	Dec	1189	26F

Base name: Tacom Support Activity, Selfridge

State: MI - Michigan

Last changed: 09/01/88

Latitude: 42d 35m Longitude: 82d 52m ID code: MI-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Traverse City & 97.5% Temp. From Selfridge

Annual heating degree days: 7698

Winter heating design temperature (97.5%): 3F

Annual average outdoor temperature: 45F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1329	22F	May	383	54F	Sep	224	59F
Feb	1184	22F	Jun	151	64F	Oct	472	50F
Mar	1117	28F	Jul	69	69F	Nov	825	37F
Apr	668	43F	Aug	85	67F	Dec	1189	26F

Base name: Twin Cities Ordnance Plant

State: MN - Minnesota

Last changed: 09/01/88

Latitude: 45d 5m Longitude: 93d 10m ID code: MN-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Minneapolis- St. Paul IAP, MN

Annual heating degree days: 8310

Winter heating design temperature (97.5%): -12F

Annual average outdoor temperature: 45F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1659	13F	May	267	59F	Sep	217	61F
Feb	1313	19F	Jun	80	68F	Oct	478	51F
Mar	1171	28F	Jul	28	73F	Nov	979	33F
Apr	626	45F	Aug	47	71F	Dec	1444	19F

Base name: Camp Ripley, Little Falls

State: MN - Minnesota

Last changed: 09/01/88

Latitude: 45d 58m Longitude: 94d 21m ID code: MN-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Minneapolis- St. Paul IAP, MN

Annual heating degree days: 8310

Winter heating design temperature (97.5%): -12F

Annual average outdoor temperature: 45F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1659	13F	May	267	59F	Sep	217	61F
Feb	1313	19F	Jun	80	68F	Oct	478	51F
Mar	1171	28F	Jul	28	73F	Nov	979	33F
Apr	626	45F	Aug	47	71F	Dec	1444	19F

Base name: Fort Leonard Wood

State: MO - Missouri

Last changed: 09/01/88

Latitude: 37d 45m Longitude: 92d 9m

ID code: MO-1

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 4707

Winter heating design temperature (97.5%): 9F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1002	32F	May	130	65F	Sep	85	68F
Feb	856	34F	Jun	29	73F	Oct	298	57F
Mar	616	44F	Jul	10	77F	Nov	555	46F
Apr	267	58F	Aug	20	74F	Dec	839	37F

Base name: St. Louis Army Ammunition Plant

State: MO - Missouri

Last changed: 09/01/88

Latitude: 38d 41m Longitude: 90d 16m

ID code: MO-2

County:

Base in a non-attainment area: N

Comment: Weather Data From St. Louis IAP

Annual heating degree days: 4750

Winter heating design temperature (97.5%): 8F

Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	878	35F	May	129	66F	Sep	55	70F
Feb	673	40F	Jun	23	76F	Oct	239	59F
Mar	578	46F	Jul	5	78F	Nov	604	44F
Apr	297	56F	Aug	8	76F	Dec	847	36F

Base name: Gateway Army Ammunition Plant, St. Louis

State: MO - Missouri

Last changed: 09/01/88

Latitude: 38d 42m Longitude: 90d 16m

ID code: MO-3

County:

Base in a non-attainment area: N

Comment: Weather Data From St. Louis / Lambert IAP, MO

Annual heating degree days: 4750

Winter heating design temperature (97.5%): 6F

Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	878	35F	May	129	66F	Sep	55	70F
Feb	673	40F	Jun	23	76F	Oct	239	59F
Mar	578	46F	Jul	5	78F	Nov	604	44F
Apr	297	56F	Aug	8	76F	Dec	847	36F

Base name: Lake City Army Ammunition Plant

State: MO - Missouri

Last changed: 09/01/88

Latitude: 39d 6m Longitude: 94d 15m

ID code: MO-4

County:

Base in a non-attainment area: N

Comment: Weather Data From St. Louis / Lambert IAP, MO

Annual heating degree days: 4750

Winter heating design temperature (97.5%): 3F

Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	878	35F	May	129	66F	Sep	55	70F
Feb	673	40F	Jun	23	76F	Oct	239	59F
Mar	578	46F	Jul	5	78F	Nov	604	44F
Apr	297	56F	Aug	8	76F	Dec	847	36F



Base name: Mississippi Army Ammunition Plant

State: MS - Mississippi

Last changed: 09/01/88

Latitude: 30d 18m Longitude: 89d 19m

ID code: MS-1

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Keesler AFB / Biloxi, MS

Annual heating degree days: 2890

Winter heating design temperature (97.5%): 20F

Annual average outdoor temperature: 68F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	714	52F	May	16	76F	Sep	3	78F
Feb	497	56F	Jun	0	81F	Oct	117	69F
Mar	348	60F	Jul	0	83F	Nov	414	59F
Apr	104	69F	Aug	0	82F	Dec	675	53F

Base name: Camp Shelby, Hattiesburg

State: MS - Mississippi

Last changed: 09/01/88

Latitude: 31d 19m Longitude: 89d 17m

ID code: MS-2

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Keesler AFB / Biloxi, MS

Annual heating degree days: 2890

Winter heating design temperature (97.5%): 20F

Annual average outdoor temperature: 68F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	714	52F	May	16	76F	Sep	3	78F
Feb	497	56F	Jun	0	81F	Oct	117	69F
Mar	348	60F	Jul	0	83F	Nov	414	59F
Apr	104	69F	Aug	0	82F	Dec	675	53F

Base name: Fort Missoula, Missoula

State: MT - Montana

Last changed: 09/01/88

Latitude: 46d 55m Longitude: 114d 5m ID code: MT-1

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5 % Temp. From Missoula, MT

Annual heating degree days: 7931

Winter heating design temperature (97.5%): -6F

Annual average outdoor temperature: 44F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1316	21F	May	416	52F	Sep	327	55F
Feb	1010	27F	Jun	240	59F	Oct	628	44F
Mar	951	33F	Jul	127	67F	Nov	968	31F
Apr	621	43F	Aug	156	65F	Dec	1170	25F

Base name: Fort Bragg  
 State: NC - North Carolina Last changed: 09/01/88  
 Latitude: 35d 8m Longitude: 78d 56m ID code: NC-1  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Fort Bragg / Simmons AAF, NC

Annual heating degree days: 3105  
 Winter heating design temperature (97.5%): 21F  
 Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	724	40F	May	77	69F	Sep	30	72F
Feb	595	42F	Jun	10	76F	Oct	130	64F
Mar	419	52F	Jul	1	78F	Nov	403	51F
Apr	166	63F	Aug	4	77F	Dec	548	47F

Base name: Camp Mackall  
 State: NC - North Carolina Last changed: 09/01/88  
 Latitude: 35d 1m Longitude: 79d 33m ID code: NC-2  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data And 97.5% Temp. From Fort Bragg / Simmons AAF

Annual heating degree days: 3105  
 Winter heating design temperature (97.5%): 21F  
 Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	724	40F	May	77	69F	Sep	30	72F
Feb	595	42F	Jun	10	76F	Oct	130	64F
Mar	419	52F	Jul	1	78F	Nov	403	51F
Apr	166	63F	Aug	4	77F	Dec	548	47F

Base name: Sunny Point Military Ocean Terminal  
 State: NC - North Carolina Last changed: 09/01/88  
 Latitude: 34d 0m Longitude: 78d 0m ID code: NC-3  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather From Fort Bragg / Simmons AAF, NC

Annual heating degree days: 3105  
 Winter heating design temperature (97.5%): 21F  
 Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	724	40F	May	77	69F	Sep	30	72F
Feb	595	42F	Jun	10	76F	Oct	130	64F
Mar	419	52F	Jul	1	78F	Nov	403	51F
Apr	166	63F	Aug	4	77F	Dec	548	47F

Base name: Tarheel Army Missile Plant, Burlington  
State: NC - North Carolina Last changed: 09/01/88  
Latitude: 36d 5m Longitude: 79d 26m ID code: NC-4  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Greensboro, NC

Annual heating degree days: 3825  
Winter heating design temperature (97.5%): 18F  
Annual average outdoor temperature: 58F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	748	39F	May	93	67F	Sep	66	69F
Feb	619	41F	Jun	21	74F	Oct	244	58F
Mar	531	47F	Jul	6	76F	Nov	486	48F
Apr	250	58F	Aug	9	75F	Dec	752	39F

Base name: Cornhusker Army Ammunition Plant, Grand Island  
State: NE - Nebraska Last changed: 09/01/88  
Latitude: 40d 55m Longitude: 98d 21m ID code: NE-1  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Grand Island, NE

Annual heating degree days: 6420  
Winter heating design temperature (97.5%): -3F  
Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1283	21F	May	202	61F	Sep	155	64F
Feb	984	28F	Jun	56	71F	Oct	377	54F
Mar	908	34F	Jul	16	76F	Nov	798	37F
Apr	483	49F	Aug	29	74F	Dec	1129	26F

Base name: Fort Dix  
State: NJ - New Jersey Last changed: 09/01/88  
Latitude: 40d 1m Longitude: 74d 38m ID code: NJ-1  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Mccguire AFB, NJ

Annual heating degree days: 5139  
Winter heating design temperature (97.5%): 11F  
Annual average outdoor temperature: 53F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1017	30F	May	199	61F	Sep	90	67F
Feb	863	32F	Jun	47	70F	Oct	296	56F
Mar	742	39F	Jul	12	74F	Nov	544	46F
Apr	420	51F	Aug	21	73F	Dec	889	35F

Base name: Fort Monmouth  
State: NJ - New Jersey Last changed: 09/01/88  
Latitude: 40d 19m Longitude: 74d 2m ID code: NJ-2  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Newark IAP, NJ

Annual heating degree days: 5034  
Winter heating design temperature (97.5%): 12F  
Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	980	32F	May	181	62F	Sep	79	67F
Feb	848	34F	Jun	37	71F	Oct	267	57F
Mar	754	40F	Jul	5	76F	Nov	548	46F
Apr	409	52F	Aug	11	74F	Dec	916	35F

Base name: Picatinny Arsenal  
State: NJ - New Jersey Last changed: 09/01/88  
Latitude: 40d 56m Longitude: 74d 34m ID code: NJ-3  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Newark IAP, NJ

Annual heating degree days: 5034  
Winter heating design temperature (97.5%): 6F  
Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	980	32F	May	181	62F	Sep	79	67F
Feb	848	34F	Jun	37	71F	Oct	267	57F
Mar	754	40F	Jul	5	76F	Nov	548	46F
Apr	409	52F	Aug	11	74F	Dec	916	35F

Base name: Bayonne Military Ocean Terminal, Bayonne  
State: NJ - New Jersey Last changed: 09/01/88  
Latitude: 40d 40m Longitude: 74d 5m ID code: NJ-4  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Newark IAP, NJ

Annual heating degree days: 5034  
Winter heating design temperature (97.5%): 14F  
Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	980	32F	May	181	62F	Sep	79	67F
Feb	848	34F	Jun	37	71F	Oct	267	57F
Mar	754	40F	Jul	5	76F	Nov	548	46F
Apr	409	52F	Aug	11	74F	Dec	916	35F

Base name: White Sands Missile Range

State: NM - New Mexico

Last changed: 09/01/88

Latitude: 32d 23m Longitude: 106d 29m

ID code: NM-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Fort Bliss / Biggs AAF, Tx

Annual heating degree days: 2432

Winter heating design temperature (97.5%): 25F

Annual average outdoor temperature: 64F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	551	44F	May	38	74F	Sep	12	81F
Feb	415	48F	Jun	4	0F	Oct	112	76F
Mar	287	56F	Jul	0	82F	Nov	357	65F
Apr	111	65F	Aug	0	82F	Dec	544	52F

Base name: Fort Wingate Depot, Gallup

State: NM - New Mexico

Last changed: 09/01/88

Latitude: 35d 31m Longitude: 108d 35m

ID code: NM-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Albuquerque IAP, NM

Annual heating degree days: 5915

Winter heating design temperature (97.5%): 4F

Annual average outdoor temperature: 57F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	878	35F	May	129	66F	Sep	55	70F
Feb	673	40F	Jun	23	76F	Oct	239	59F
Mar	578	46F	Jul	5	78F	Nov	604	44F
Apr	297	56F	Aug	8	76F	Dec	847	36F



Base name: Hawthorne Army Ammunition Plant

State: NV - Nevada

Last changed: 09/01/88

Latitude: 33d 31m

Longitude: 118d 37m

ID code: NV-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Tonopah Map & 97.5% Temp. From Hawthorne

Annual heating degree days: 5900

Winter heating design temperature (97.5%): 11F

Annual average outdoor temperature: 51F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1057	29F	May	292	58F	Sep	163	65F
Feb	807	35F	Jun	119	68F	Oct	393	53F
Mar	760	40F	Jul	39	75F	Nov	761	39F
Apr	477	49F	Aug	65	72F	Dec	966	33F

Base name: Fort Drum  
 State: NY - New York Last changed: 09/01/88  
 Latitude: 44d 2m Longitude: 75d 46m ID code: NY-1  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Griffis AFB / Rome, NY

Annual heating degree days: 7331  
 Winter heating design temperature (97.5%): -7F  
 Annual average outdoor temperature: 46F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1350	19F	May	338	55F	Sep	200	61F
Feb	1158	22F	Jun	127	65F	Oct	469	50F
Mar	1022	31F	Jul	63	69F	Nov	745	39F
Apr	601	44F	Aug	86	67F	Dec	1171	25F

Base name: Fort Hamilton  
 State: NY - New York Last changed: 09/01/88  
 Latitude: 40d 36m Longitude: 74d 2m ID code: NY-2  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Newark IAP, NJ

Annual heating degree days: 5034  
 Winter heating design temperature (97.5%): 15F  
 Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	980	32F	May	181	62F	Sep	79	67F
Feb	848	34F	Jun	37	71F	Oct	267	57F
Mar	754	40F	Jul	5	76F	Nov	548	46F
Apr	409	52F	Aug	11	74F	Dec	916	35F

Base name: Seneca Army Depot  
 State: NY - New York Last changed: 09/01/88  
 Latitude: 42d 45m Longitude: 76d 50m ID code: NY-3  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Syracuse / Hancock IAP, NY

Annual heating degree days: 6772  
 Winter heating design temperature (97.5%): 5F  
 Annual average outdoor temperature: 48F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1241	24F	May	281	58F	Sep	180	62F
Feb	1087	26F	Jun	91	67F	Oct	416	52F
Mar	989	33F	Jul	36	72F	Nov	712	41F
Apr	554	47F	Aug	57	69F	Dec	1128	28F

Base name: Us Military Academy, West Point

State: NY - New York

Last changed: 09/01/88

Latitude: 41d 23m Longitude: 73d 57m

ID code: NY-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Newburgh / Stewart, NY

Annual heating degree days: 6336

Winter heating design temperature (97.5%): 6F

Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1214	25F	May	260	58F	Sep	150	63F
Feb	1033	27F	Jun	78	68F	Oct	386	53F
Mar	883	36F	Jul	28	73F	Nov	681	42F
Apr	496	49F	Aug	44	70F	Dec	1083	29F

Base name: Watervliet Arsenal

State: NY - New York

Last changed: 09/01/88

Latitude: 42d 43m Longitude: 73d 42m

ID code: NY-5

County:

Base in a non-attainment area: N

Comment: Weather Data From Albany, NY

Annual heating degree days: 6888

Winter heating design temperature (97.5%): 5F

Annual average outdoor temperature: 48F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1280	23F	May	270	58F	Sep	194	61F
Feb	1101	25F	Jun	89	67F	Oct	435	51F
Mar	976	33F	Jul	37	72F	Nov	744	40F
Apr	542	47F	Aug	64	69F	Dec	1158	27F

Base name: Stewart Annex, Newburg

State: NY - New York

Last changed: 09/01/88

Latitude: 41d 30m Longitude: 74d 1m

ID code: NY-6

County:

Base in a non-attainment area: N

Comment: Weather Data From Newburgh / Stewart Aprt, NY

Annual heating degree days: 6336

Winter heating design temperature (97.5%): 4F

Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1214	25F	May	260	58F	Sep	150	63F
Feb	1033	27F	Jun	78	68F	Oct	386	53F
Mar	883	36F	Jul	28	73F	Nov	681	42F
Apr	496	49F	Aug	44	70F	Dec	1083	29F

Base name: Fort Wadsworth, New York

State: NY - New York

Last changed: 09/01/88

Latitude: 40d 36m Longitude: 74d 3m ID code: NY-7

County:

Base in a non-attainment area: N

Comment: Weather Data From Newark IAP, NJ

Annual heating degree days: 5184

Winter heating design temperature (97.5%): 15F

Annual average outdoor temperature: 54F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	980	32F	May	181	62F	Sep	79	67F
Feb	848	34F	Jun	37	71F	Oct	267	57F
Mar	754	40F	Jul	5	76F	Nov	548	46F
Apr	409	52F	Aug	11	74F	Dec	916	35F

Base name: West Point Military Reservation, Newburgh

State: NY - New York

Last changed: 09/01/88

Latitude: 41d 23m Longitude: 73d 57m ID code: NY-8

County:

Base in a non-attainment area: N

Comment: Weather Data From Newburgh / Stewart Appt, NY

Annual heating degree days: 5753

Winter heating design temperature (97.5%): 6F

Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1214	25F	May	260	58F	Sep	150	63F
Feb	1033	27F	Jun	78	68F	Oct	386	53F
Mar	883	36F	Jul	28	73F	Nov	681	42F
Apr	496	49F	Aug	44	70F	Dec	1083	29F

Base name: Defence Construction Supply Center, Columbus  
 State: OH - Ohio Last changed: 09/01/88  
 Latitude: 41d 20m Longitude: 81d 56m ID code: OH-1  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Wright-Patterson AFB & 97.5% Temp-Columbus

Annual heating degree days: 5455  
 Winter heating design temperature (97.5%): 5F  
 Annual average outdoor temperature: 52F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1107	27F	May	175	62F	Sep	107	67F
Feb	919	30F	Jun	43	71F	Oct	338	55F
Mar	760	39F	Jul	16	74F	Nov	628	43F
Apr	378	53F	Aug	30	73F	Dec	955	32F

Base name: Lima Army Tank Center, Lima  
 State: OH - Ohio Last changed: 09/01/88  
 Latitude: 40d 41m Longitude: 84d 5m ID code: OH-2  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data Wright-Patterson AFB, OH

Annual heating degree days: 5455  
 Winter heating design temperature (97.5%): 4F  
 Annual average outdoor temperature: 52F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1107	27F	May	175	62F	Sep	107	67F
Feb	919	30F	Jun	43	71F	Oct	338	55F
Mar	760	39F	Jul	16	74F	Nov	628	43F
Apr	378	53F	Aug	30	73F	Dec	955	32F

Base name: Ravenna Army Ammunition Plant  
 State: OH - Ohio Last changed: 09/01/88  
 Latitude: 41d 11m Longitude: 81d 6m ID code: OH-3  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Akron-Canton Aprt & 97.5% Temp. from Ravana

Annual heating degree days: 6224  
 Winter heating design temperature (97.5%): 4F  
 Annual average outdoor temperature: 49F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1107	27F	May	260	58F	Sep	148	63F
Feb	938	30F	Jun	87	67F	Oct	398	52F
Mar	900	35F	Jul	34	71F	Nov	738	39F
Apr	515	48F	Aug	45	70F	Dec	1054	29F

Base name: McAlester Army Ammunition Plant

State: OK - Oklahoma

Last changed: 09/01/88

Latitude: 34d 56m Longitude: 95d 45m ID code: OK-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Tinker AFB, OK

Annual heating degree days: 3588

Winter heating design temperature (97.5%): 19F

Annual average outdoor temperature: 59F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	827	35F	May	65	69F	Sep	38	72F
Feb	634	40F	Jun	8	76F	Oct	179	62F
Mar	508	47F	Jul	1	81F	Nov	435	49F
Apr	191	61F	Aug	2	80F	Dec	699	40F

Base name: Fort Sill, Lawton

State: OK - Oklahoma

Last changed: 09/01/88

Latitude: 34d 39m Longitude: 98d 24m ID code: OK-2

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 3367

Winter heating design temperature (97.5%): 16F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	785	37F	May	56	70F	Sep	31	74F
Feb	592	42F	Jun	7	78F	Oct	175	62F
Mar	458	50F	Jul	1	83F	Nov	416	51F
Apr	171	62F	Aug	2	82F	Dec	672	41F

Base name: Umatilla Depot Activity

State: OR - Oregon

Last changed: 09/01/88

Latitude: 45d 48m Longitude: 119d 25m

ID code: OR-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Pendleton, OR

Annual heating degree days: 5123

Winter heating design temperature (97.5%): 8F

Annual average outdoor temperature: 52F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	956	32F	May	260	58F	Sep	141	64F
Feb	690	38F	Jun	120	66F	Oct	383	52F
Mar	640	43F	Jul	43	74F	Nov	689	40F
Apr	414	50F	Aug	55	71F	Dec	849	35F

Base name: Carlisle Barracks

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 40d 12m Longitude: 77d 11m

ID code: PA-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Harrisburg IAP / Olmsted, PA

Annual heating degree days: 5315

Winter heating design temperature (97.5%): 9F

Annual average outdoor temperature: 53F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1041	30F	May	165	63F	Sep	101	66F
Feb	874	33F	Jun	43	71F	Oct	331	55F
Mar	757	40F	Jul	11	76F	Nov	624	44F
Apr	390	53F	Aug	21	73F	Dec	957	33F

Base name: Letterkenney Army Depot

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 40d 0m Longitude: 77d 39m

ID code: PA-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Harrisburg IAP / Olmsted, PA

Annual heating degree days: 5315

Winter heating design temperature (97.5%): 8F

Annual average outdoor temperature: 53F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1041	30F	May	165	63F	Sep	101	66F
Feb	874	33F	Jun	43	71F	Oct	331	55F
Mar	757	40F	Jul	11	76F	Nov	624	44F
Apr	390	53F	Aug	21	73F	Dec	957	33F

Base name: New Cumberland Army Depot

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 40d 13m Longitude: 76d 50m

ID code: PA-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Harrisburg IAP / Olmsted, PA

Annual heating degree days: 5315

Winter heating design temperature (97.5%): 11F

Annual average outdoor temperature: 53F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1041	30F	May	165	63F	Sep	101	66F
Feb	874	33F	Jun	43	71F	Oct	331	55F
Mar	757	40F	Jul	11	76F	Nov	624	44F
Apr	390	53F	Aug	21	73F	Dec	957	33F



Base name: Tobyhanna Army Depot

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 41d 11m Longitude: 75d 25m

ID code: PA-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Wilkes-Barre-Scranton Aprt. PA

Annual heating degree days: 6277

Winter heating design temperature (97.5%): 2F

Annual average outdoor temperature: 49F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1138	27F	May	245	59F	Sep	166	62F
Feb	991	28F	Jun	84	68F	Oct	403	52F
Mar	896	35F	Jul	33	72F	Nov	704	41F
Apr	501	48F	Aug	50	70F	Dec	1065	29F

Base name: Defence Personal Support Center

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 39d 53m Longitude: 75d 15m

ID code: PA-5

County:

Base in a non-attainment area: N

Comment: Weather Data From McGuire AFB, NJ &amp; 97.5% Temp.- Philadelphia

Annual heating degree days: 5139

Winter heating design temperature (97.5%): 14F

Annual average outdoor temperature: 53F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1017	30F	May	199	61F	Sep	90	67F
Feb	863	32F	Jun	47	70F	Oct	296	56F
Mar	742	39F	Jul	12	74F	Nov	544	46F
Apr	420	51F	Aug	21	73F	Dec	889	35F

Base name: Frankfurt Arsenal, Philadelphia

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 40d 0m Longitude: 75d 4m

ID code: PA-6

County:

Base in a non-attainment area: N

Comment: Weather Data From McGuire AFB, NJ

Annual heating degree days: 5139

Winter heating design temperature (97.5%): 14F

Annual average outdoor temperature: 53F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1017	30F	May	199	61F	Sep	90	67F
Feb	863	32F	Jun	47	70F	Oct	296	56F
Mar	742	39F	Jul	12	74F	Nov	544	46F
Apr	420	51F	Aug	21	73F	Dec	889	35F

Base name: Hays Army Ammunition Plant

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 40d 26m Longitude: 80d 0m ID code: PA-7

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Pittsburg IAP, PA

Annual heating degree days: 5930

Winter heating design temperature (97.5%): 5F

Annual average outdoor temperature: 51F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1130	27F	May	223	60F	Sep	138	64F
Feb	943	30F	Jun	76	68F	Oct	372	54F
Mar	828	37F	Jul	32	72F	Nov	673	42F
Apr	450	50F	Aug	42	70F	Dec	1023	31F

Base name: Fort Indiantown Gap, Annville

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 40d 12m Longitude: 77d 11m ID code: PA-8

County:

Base in a non-attainment area: N

Comment: Weather Data From Harrisburg IAP, PA

Annual heating degree days: 5315

Winter heating design temperature (97.5%): 8F

Annual average outdoor temperature: 53F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1041	30F	May	165	63F	Sep	101	66F
Feb	874	33F	Jun	43	71F	Oct	331	55F
Mar	757	40F	Jul	11	76F	Nov	624	44F
Apr	390	53F	Aug	21	73F	Dec	957	33F

Base name: Fort Ritchie, Blue Ridge Summit

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 39d 43m Longitude: 77d 28m ID code: PA-9

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Harrisburg IAP, PA

Annual heating degree days: 5315

Winter heating design temperature (97.5%): 11F

Annual average outdoor temperature: 53F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1041	30F	May	165	63F	Sep	101	66F
Feb	874	33F	Jun	43	71F	Oct	331	55F
Mar	757	40F	Jul	11	76F	Nov	624	44F
Apr	390	53F	Aug	21	73F	Dec	957	33F

Base name: Scranton Army Ammunition Plant

State: PA - Pennsylvania

Last changed: 09/01/88

Latitude: 41d 24m Longitude: 75d 40m

ID code: PA-10

County:

Base in a non-attainment area: N

Comment: Weather Data From Wilkes-Barre-Scranton Aprt, PA

Annual heating degree days: 6277

Winter heating design temperature (97.5%): 5F

Annual average outdoor temperature: 49F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1138	27F	May	245	59F	Sep	166	62F
Feb	991	28F	Jun	84	68F	Oct	403	52F
Mar	896	35F	Jul	33	72F	Nov	704	41F
Apr	501	48F	Aug	50	70F	Dec	1065	29F

Base name: Fort Jackson

State: SC - South Carolina

Last changed: 09/01/88

Latitude: 34d 1m Longitude: 80d 56m

ID code: SC-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Shaw AFB / Sumter, SC

Annual heating degree days: 2453

Winter heating design temperature (97.5%): 24F

Annual average outdoor temperature: 63F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	575	44F	May	38	72F	Sep	18	74F
Feb	448	47F	Jun	4	77F	Oct	122	64F
Mar	331	54F	Jul	0	79F	Nov	289	55F
Apr	122	64F	Aug	1	79F	Dec	504	47F

Base name: Defence Depot

State: TN - Tennessee

Last changed: 09/01/88

Latitude: 35d 5m Longitude: 89d 59m ID code: TN-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Memphis NAS / Millington, TN

Annual heating degree days: 3445

Winter heating design temperature (97.5%): 16F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	808	38F	May	48	71F	Sep	31	73F
Feb	634	41F	Jun	4	78F	Oct	174	62F
Mar	479	49F	Jul	1	80F	Nov	421	51F
Apr	162	63F	Aug	2	79F	Dec	680	42F

Base name: Fort Campbell, Clarksville

State: TN - Tennessee

Last changed: 09/01/88

Latitude: 36d 31m Longitude: 87d 20m ID code: TN-2

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Stewart AFB / Smyrna Apr

Annual heating degree days: 3949

Winter heating design temperature (97.5%): 13F

Annual average outdoor temperature: 58F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	839	36F	May	91	68F	Sep	61	70F
Feb	662	40F	Jun	22	74F	Oct	256	59F
Mar	532	47F	Jul	6	78F	Nov	507	47F
Apr	215	60F	Aug	11	77F	Dec	747	39F

Base name: Holston Army Ammunition Plant

State: TN - Tennessee

Last changed: 09/01/88

Latitude: 36d 31m Longitude: 82d 30m ID code: TN-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Bristol / Tri City Aprt, TN

Annual heating degree days: 4306

Winter heating design temperature (97.5%): 16F

Annual average outdoor temperature: 56F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	826	37F	May	115	66F	Sep	75	68F
Feb	668	40F	Jun	28	72F	Oct	278	57F
Mar	581	45F	Jul	11	75F	Nov	572	45F
Apr	307	56F	Aug	17	74F	Dec	827	37F

Base name: Milan Army Ammunition Plant

State: TN - Tennessee

Last changed: 09/01/88

Latitude: 35d 54m Longitude: 88d 42m

ID code: TN-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Memphis NAS, TN

Annual heating degree days: 3445

Winter heating design temperature (97.5%): 16F

Annual average outdoor temperature: 61F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	808	38F	May	48	71F	Sep	31	73F
Feb	634	41F	Jun	4	78F	Oct	174	62F
Mar	479	49F	Jul	1	80F	Nov	421	51F
Apr	162	63F	Aug	2	79F	Dec	680	42F

Base name: Volunteer Army Ammunition Plant

State: TN - Tennessee

Last changed: 09/01/88

Latitude: 35d 5m Longitude: 85d 8m

ID code: TN-5

County:

Base in a non-attainment area: N

Comment: Weather Data From Knoxville / Alcoa ANG Station, TN

Annual heating degree days: 3505

Winter heating design temperature (97.5%): 18F

Annual average outdoor temperature: 59F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	706	40F	May	73	69F	Sep	40	71F
Feb	531	44F	Jun	13	75F	Oct	206	60F
Mar	485	49F	Jul	2	78F	Nov	493	47F
Apr	228	59F	Aug	4	77F	Dec	697	41F

Base name: Camp Bullis

State: TX - Texas

Last changed: 09/01/88

Latitude: 29d 41m Longitude: 98d 45m ID code: TX-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Kelly AFB / San Antonio, TX

Annual heating degree days: 1520

Winter heating design temperature (97.5%): 28F

Annual average outdoor temperature: 68F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	402	49F	May	11	75F	Sep	6	78F
Feb	290	53F	Jun	1	81F	Oct	59	69F
Mar	190	60F	Jul	0	84F	Nov	184	60F
Apr	53	69F	Aug	0	84F	Dec	323	53F

Base name: Fort Bliss

State: TX - Texas

Last changed: 09/01/88

Latitude: 31d 51m Longitude: 106d 23m ID code: TX-2

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 2432

Winter heating design temperature (97.5%): 23F

Annual average outdoor temperature: 64F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	551	44F	May	38	74F	Sep	12	76F
Feb	415	48F	Jun	4	82F	Oct	112	65F
Mar	287	56F	Jul	0	82F	Nov	357	52F
Apr	111	65F	Aug	0	81F	Dec	544	45F

Base name: Fort Hood

State: TX - Texas

Last changed: 09/01/88

Latitude: 31d 9m Longitude: 97d 43m ID code: TX-3

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 1959

Winter heating design temperature (97.5%): 25F

Annual average outdoor temperature: 66F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	497	46F	May	21	73F	Sep	8	77F
Feb	381	49F	Jun	2	79F	Oct	76	68F
Mar	245	58F	Jul	0	83F	Nov	224	58F
Apr	66	68F	Aug	0	83F	Dec	438	49F

Base name: Red River Army Depot

State: TX - Texas

Last changed: 09/01/88

Latitude: 33d 27m Longitude: 94d 20m ID code: TX-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Carswell AFB / Fort Worth, TX

Annual heating degree days: 2301

Winter heating design temperature (97.5%): 23F

Annual average outdoor temperature: 65F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	579	43F	May	24	73F	Sep	11	77F
Feb	426	48F	Jun	2	81F	Oct	93	67F
Mar	314	55F	Jul	0	85F	Nov	282	56F
Apr	94	66F	Aug	0	84F	Dec	475	47F

Base name: Brooke Army Medical Center, San Antonio

State: TX - Texas

Last changed: 09/01/88

Latitude: 29d 28m Longitude: 98d 27m ID code: TX-5

County:

Base in a non-attainment area: N

Comment: Weather Data From Kelly AFB / San Antonio, TX

Annual heating degree days: 1520

Winter heating design temperature (97.5%): 30F

Annual average outdoor temperature: 68F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	402	49F	May	11	75F	Sep	6	78F
Feb	290	53F	Jun	1	81F	Oct	59	69F
Mar	190	60F	Jul	0	84F	Nov	184	60F
Apr	53	69F	Aug	0	84F	Dec	323	53F

Base name: Corpus Christi Army Depot, Corpus Christi

State: TX - Texas

Last changed: 09/01/88

Latitude: 27d 46m Longitude: 97d 30m ID code: TX-6

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Corpus Christi NAS, TX

Annual heating degree days: 899

Winter heating design temperature (97.5%): 38F

Annual average outdoor temperature: 72F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	291	55F	May	2	77F	Sep	0	81F
Feb	185	59F	Jun	0	82F	Oct	13	75F
Mar	107	63F	Jul	0	84F	Nov	92	66F
Apr	14	72F	Aug	0	84F	Dec	195	60F



Base name: Fifth Army Hq, Fort Sam Houston, San Antonio  
 State: TX - Texas Last changed: 09/01/88  
 Latitude: 29d 27m Longitude: 98d 26m ID code: TX-7  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Kelly AFB / San Antonio, TX

Annual heating degree days: 1520  
 Winter heating design temperature (97.5%): 30F  
 Annual average outdoor temperature: 68F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	402	49F	May	11	75F	Sep	6	78F
Feb	290	53F	Jun	1	81F	Oct	59	69F
Mar	190	60F	Jul	0	84F	Nov	184	60F
Apr	53	69F	Aug	0	84F	Dec	323	53F

Base name: Longhorn Army Ammunition Plant  
 State: TX - Texas Last changed: 09/01/88  
 Latitude: 32d 40m Longitude: 94d 9m ID code: TX-8  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Carswell AFB, TX

Annual heating degree days: 2301  
 Winter heating design temperature (97.5%): 24F  
 Annual average outdoor temperature: 65F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	579	43F	May	24	73F	Sep	11	77F
Feb	426	48F	Jun	2	81F	Oct	93	67F
Mar	314	55F	Jul	0	85F	Nov	282	56F
Apr	94	66F	Aug	0	84F	Dec	475	47F

Base name: Saginaw Army Aircraft Plant  
 State: TX - Texas Last changed: 09/01/88  
 Latitude: 32d 50m Longitude: 97d 3m ID code: TX-9  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From Carswell AFB & 97.5% Temp. From Fort Worth

Annual heating degree days: 2301  
 Winter heating design temperature (97.5%): 22F  
 Annual average outdoor temperature: 65F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	579	43F	May	24	73F	Sep	11	77F
Feb	426	48F	Jun	2	81F	Oct	93	67F
Mar	314	55F	Jul	0	85F	Nov	282	56F
Apr	94	66F	Aug	0	84F	Dec	475	47F

Base name: William Beaumont Army Medical Center, El Paso  
State: TX - Texas Last changed: 09/01/88  
Latitude: 31d 51m Longitude: 106d 23m ID code: TX-10  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Carswell AFB And 97.5% Temp. From El Paso

Annual heating degree days: 2301  
Winter heating design temperature (97.5%): 24F  
Annual average outdoor temperature: 65F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	579	43F	May	24	73F	Sep	11	84F
Feb	426	48F	Jun	2	81F	Oct	93	77F
Mar	314	55F	Jul	0	85F	Nov	282	67F
Apr	94	66F	Aug	0	0F	Dec	475	56F

Base name: Lone Star Army Ammunition Plant, Texarkana  
State: TX - Texas Last changed: 09/01/88  
Latitude: 33d 27m Longitude: 94d 14m ID code: TX-11  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Carswell AFB, TX

Annual heating degree days: 2301  
Winter heating design temperature (97.5%): 24F  
Annual average outdoor temperature: 65F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	579	43F	May	24	73F	Sep	11	77F
Feb	426	48F	Jun	2	81F	Oct	93	67F
Mar	314	55F	Jul	0	85F	Nov	282	56F
Apr	94	66F	Aug	0	84F	Dec	475	47F

Base name: Dugway Proving Ground

State: UT - Utah

Last changed: 09/01/88

Latitude: 40d 12m Longitude: 112d 56m

ID code: UT-1

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 5877

Winter heating design temperature (97.5%): 5F

Annual average outdoor temperature: 52F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1113	27F	May	237	61F	Sep	145	66F
Feb	851	33F	Jun	41	73F	Oct	400	53F
Mar	756	40F	Jul	13	80F	Nov	776	38F
Apr	447	50F	Aug	25	77F	Dec	1072	29F

Base name: Tooele Army Depot

State: UT - Utah

Last changed: 09/01/88

Latitude: 40d 31m Longitude: 112d 25m

ID code: UT-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Dugway Proving Ground / Michales AAF, UT

Annual heating degree days: 5877

Winter heating design temperature (97.5%): 7F

Annual average outdoor temperature: 52F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1113	27F	May	237	61F	Sep	145	66F
Feb	851	33F	Jun	41	73F	Oct	400	53F
Mar	756	40F	Jul	13	80F	Nov	776	38F
Apr	447	50F	Aug	25	77F	Dec	1072	29F

Base name: Defence Depot, Odgen

State: UT - Utah

Last changed: 09/01/88

Latitude: 41d 13m Longitude: 111d 58m

ID code: UT-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Hill AFB, UT

Annual heating degree days: 5840

Winter heating design temperature (97.5%): 6F

Annual average outdoor temperature: 51F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1066	28F	May	258	58F	Sep	159	63F
Feb	900	32F	Jun	107	67F	Oct	410	51F
Mar	763	38F	Jul	12	77F	Nov	593	44F
Apr	512	47F	Aug	28	74F	Dec	1031	29F

Base name: Fort Douglas, Salt Lake City

State: UT - Utah

Last changed: 09/01/88

Latitude: 40d 45m Longitude: 111d 52m

ID code: UT-4

County:

Base in a non-attainment area: N

Comment: Weather Data From Hill AFB, UT &amp; 97.5% Temp. From Ogden Map

Annual heating degree days: 5840

Winter heating design temperature (97.5%): 5F

Annual average outdoor temperature: 51F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1066	28F	May	258	58F	Sep	159	63F
Feb	900	32F	Jun	107	67F	Oct	410	51F
Mar	763	38F	Jul	12	77F	Nov	593	44F
Apr	512	47F	Aug	28	74F	Dec	1031	29F

Base name: Arlington Hall Station

State: VA - Virginia

Last changed: 09/01/88

Latitude: 38d 52m Longitude: 77d 6m ID code: VA-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Fort Belvoir / Davison AAF, VA

Annual heating degree days: 4891

Winter heating design temperature (97.5%): 17F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	985	32F	May	163	63F	Sep	89	68F
Feb	816	34F	Jun	44	72F	Oct	296	57F
Mar	685	42F	Jul	12	75F	Nov	544	46F
Apr	358	54F	Aug	19	75F	Dec	881	35F

Base name: Fort Belvoir

State: VA - Virginia

Last changed: 09/01/88

Latitude: 38d 43m Longitude: 77d 11m ID code: VA-2

County:

Base in a non-attainment area: N

Comment:

Annual heating degree days: 4891

Winter heating design temperature (97.5%): 12F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	985	32F	May	163	63F	Sep	89	68F
Feb	816	34F	Jun	44	72F	Oct	296	57F
Mar	685	42F	Jul	12	75F	Nov	544	46F
Apr	358	54F	Aug	19	75F	Dec	881	35F

Base name: Fort Eustis

State: VA - Virginia

Last changed: 09/01/88

Latitude: 37d 8m Longitude: 76d 37m ID code: VA-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Langley AFB / Hampton, VA

Annual heating degree days: 3623

Winter heating design temperature (97.5%): 20F

Annual average outdoor temperature: 58F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	779	38F	May	97	66F	Sep	32	71F
Feb	653	40F	Jun	14	74F	Oct	174	61F
Mar	536	47F	Jul	2	77F	Nov	389	51F
Apr	262	57F	Aug	4	77F	Dec	680	41F

Base name: Fort Lee  
State: VA - Virginia Last changed: 09/01/88  
Latitude: 37d 14m Longitude: 77d 21m ID code: VA-4  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Richmond / Byrd IAP, VA

Annual heating degree days: 3939  
Winter heating design temperature (97.5%): 17F  
Annual average outdoor temperature: 58F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	770	38F	May	110	66F	Sep	69	69F
Feb	647	40F	Jun	27	74F	Oct	249	58F
Mar	553	46F	Jul	6	77F	Nov	479	48F
Apr	263	58F	Aug	10	76F	Dec	754	39F

Base name: Fort Monroe  
State: VA - Virginia Last changed: 09/01/88  
Latitude: 37d 0m Longitude: 76d 19m ID code: VA-5  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Langley AFB / Hampton, VA

Annual heating degree days: 3623  
Winter heating design temperature (97.5%): 20F  
Annual average outdoor temperature: 58F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	779	38F	May	97	66F	Sep	32	71F
Feb	653	40F	Jun	14	74F	Oct	174	61F
Mar	536	47F	Jul	2	77F	Nov	389	51F
Apr	262	57F	Aug	4	77F	Dec	680	41F

Base name: Vint Hills Farms Station  
State: VA - Virginia Last changed: 09/01/88  
Latitude: 38d 45m Longitude: 77d 41m ID code: VA-6  
County:  
Base in a non-attainment area: N  
Comment: Weather Data From Fort Belvoir / Davison AAF, VA

Annual heating degree days: 4891  
Winter heating design temperature (97.5%): 11F  
Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	985	32F	May	163	63F	Sep	89	68F
Feb	816	34F	Jun	44	72F	Oct	296	57F
Mar	685	42F	Jul	12	75F	Nov	544	46F
Apr	358	54F	Aug	19	75F	Dec	881	35F

Base name: Cameron Station

State: VA - Virginia

Last changed: 09/01/88

Latitude: 38d 48m Longitude: 77d 7m ID code: VA-7

County:

Base in a non-attainment area: N

Comment: Weather Data From Fort Belvoir / Davison AAF, VA

Annual heating degree days: 4891

Winter heating design temperature (97.5%): 17F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	985	32F	May	163	63F	Sep	89	68F
Feb	816	34F	Jun	44	72F	Oct	296	57F
Mar	685	42F	Jul	12	75F	Nov	544	46F
Apr	358	54F	Aug	19	75F	Dec	881	35F

Base name: Defence General Supply Center, Richmond

State: VA - Virginia

Last changed: 09/01/88

Latitude: 37d 26m Longitude: 77d 27m ID code: VA-8

County:

Base in a non-attainment area: N

Comment: Weather Data From Richmond / Byrd IAP, VA

Annual heating degree days: 3939

Winter heating design temperature (97.5%): 17F

Annual average outdoor temperature: 58F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	770	38F	May	110	66F	Sep	69	69F
Feb	647	40F	Jun	27	74F	Oct	249	58F
Mar	553	46F	Jul	6	77F	Nov	479	48F
Apr	263	58F	Aug	10	76F	Dec	754	39F

Base name: Fort A.P. Hill, Bowling Green

State: VA - Virginia

Last changed: 09/01/88

Latitude: 38d 8m Longitude: 77d 21m ID code: VA-9

County:

Base in a non-attainment area: N

Comment: Weather Data From Richmond / Byrd IAP, VA

Annual heating degree days: 3939

Winter heating design temperature (97.5%): 14F

Annual average outdoor temperature: 58F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	770	38F	May	110	66F	Sep	69	69F
Feb	647	40F	Jun	27	74F	Oct	249	58F
Mar	553	46F	Jul	6	77F	Nov	479	48F
Apr	263	58F	Aug	10	76F	Dec	754	39F

Base name: Fort Myer, Arlington

State: VA - Virginia

Last changed: 09/01/88

Latitude: 38d 53m Longitude: 77d 5m ID code: VA-10

County:

Base in a non-attainment area: N

Comment: Weather Data From Fort Belvoir / Davison AAF, VA

Annual heating degree days: 4891

Winter heating design temperature (97.5%): 17F

Annual average outdoor temperature: 55F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	985	32F	May	163	63F	Sep	89	68F
Feb	816	34F	Jun	44	72F	Oct	296	57F
Mar	685	42F	Jul	12	75F	Nov	544	46F
Apr	358	54F	Aug	19	75F	Dec	881	35F

Base name: Fort Pickett, Blackstone

State: VA - Virginia

Last changed: 09/01/88

Latitude: 37d 14m Longitude: 77d 21m ID code: VA-11

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5% Temp. From Richmond / Byrd IAP, VA

Annual heating degree days: 3939

Winter heating design temperature (97.5%): 17F

Annual average outdoor temperature: 58F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	770	38F	May	110	66F	Sep	69	69F
Feb	647	40F	Jun	27	74F	Oct	249	58F
Mar	553	46F	Jul	6	77F	Nov	479	48F
Apr	263	58F	Aug	10	76F	Dec	754	39F

Base name: Radford Army Ammunition Plant

State: VA - Virginia

Last changed: 09/01/88

Latitude: 37d 11m Longitude: 80d 33m ID code: VA-12

County:

Base in a non-attainment area: N

Comment: Weather Data From Roanoke / Woodrum Aprt, VA

Annual heating degree days: 4307

Winter heating design temperature (97.5%): 14F

Annual average outdoor temperature: 56F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	808	37F	May	116	66F	Sep	80	68F
Feb	679	39F	Jun	32	72F	Oct	260	58F
Mar	590	45F	Jul	8	76F	Nov	524	47F
Apr	403	52F	Aug	12	74F	Dec	794	37F



Base name: Fort Story, Virginia Beach

State: VA - Virginia

Last changed: 09/01/88

Latitude: 37d 8m Longitude: 76d 37m

ID code: VA-13

County:

Base in a non-attainment area: N

Comment: Weather Data From Langley AFB / Hampton, VA

Annual heating degree days: 3623

Winter heating design temperature (97.5%): 20F

Annual average outdoor temperature: 58F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	779	38F	May	97	66F	Sep	32	71F
Feb	653	40F	Jun	14	74F	Oct	174	61F
Mar	536	47F	Jul	2	77F	Nov	389	51F
Apr	262	57F	Aug	4	77F	Dec	680	41F

Base name: Ethan Allen Firing Range

State: VT - Vermont

Last changed: 09/01/88

Latitude: 44d 28m

Longitude: 73d 12m

ID code: VT-1

County:

Base in a non-attainment area: N

Comment: Weather Data From Plattsburg.ny &amp; 97.5% Temp.from Burlington

Annual heating degree days: 8044

Winter heating design temperature (97.5%): -7F

Annual average outdoor temperature: 44F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1489	16F	May	367	54F	Sep	225	59F
Feb	1298	18F	Jun	126	64F	Oct	506	49F
Mar	1100	29F	Jul	55	69F	Nov	825	37F
Apr	671	43F	Aug	87	66F	Dec	1295	23F

Base name: Fort Lewis

State: WA - Washington

Last changed: 09/01/88

Latitude: 47d 5m Longitude: 122d 35m

ID code: WA-1

County:

Base in a non-attainment area: N

Comment: Weather Data From McChord AFB / Tacoma, WA

Annual heating degree days: 5287

Winter heating design temperature (97.5%): 24F

Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	748	39F	May	330	54F	Sep	224	58F
Feb	590	42F	Jun	190	60F	Oct	417	51F
Mar	617	43F	Jul	127	64F	Nov	589	44F
Apr	613	43F	Aug	132	63F	Dec	711	40F

Base name: Camp Bonneville, Vancouver

State: WA - Washington

Last changed: 09/01/88

Latitude: 45d 36m Longitude: 122d 36m

ID code: WA-2

County:

Base in a non-attainment area: N

Comment: Weather Data And 97.5 % Temp. From McChord AFB / Tacoma, WA

Annual heating degree days: 5297

Winter heating design temperature (97.5%): 24F

Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	748	39F	May	330	54F	Sep	224	58F
Feb	590	42F	Jun	190	60F	Oct	417	51F
Mar	617	43F	Jul	127	64F	Nov	589	44F
Apr	613	43F	Aug	132	63F	Dec	711	40F

Base name: Fort Lawton, Seattle

State: WA - Washington

Last changed: 09/01/88

Latitude: 47d 39m Longitude: 122d 25m

ID code: WA-3

County:

Base in a non-attainment area: N

Comment: Weather Data From Seattle NSA, WA

Annual heating degree days: 4650

Winter heating design temperature (97.5%): 25F

Annual average outdoor temperature: 52F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	710	40F	May	294	56F	Sep	165	60F
Feb	570	43F	Jun	159	61F	Oct	340	53F
Mar	586	45F	Jul	96	65F	Nov	538	46F
Apr	438	49F	Aug	96	65F	Dec	657	42F

Base name: Madigan Army Medical Center, Tacoma  
 State: WA - Washington Last changed: 09/01/88  
 Latitude: 47d 6m Longitude: 122d 32m ID code: WA-4  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From McChord AFB / Tacoma, WA

Annual heating degree days: 5287  
 Winter heating design temperature (97.5%): 24F  
 Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	748	39F	May	330	54F	Sep	224	58F
Feb	590	42F	Jun	190	60F	Oct	417	51F
Mar	617	43F	Jul	127	64F	Nov	589	44F
Apr	613	43F	Aug	132	63F	Dec	711	40F

Base name: Vancouver Barracks  
 State: WA - Washington Last changed: 09/01/88  
 Latitude: 47d 5m Longitude: 122d 35m ID code: WA-5  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data And 97.5% Temp. From McChord AFB, WA

Annual heating degree days: 5339  
 Winter heating design temperature (97.5%): 19F  
 Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	748	39F	May	330	54F	Sep	224	58F
Feb	590	42F	Jun	190	60F	Oct	417	51F
Mar	617	43F	Jul	127	64F	Nov	589	44F
Apr	613	43F	Aug	132	63F	Dec	711	40F

Base name: Yakima Firing Center, Yakima  
 State: WA - Washington Last changed: 09/01/88  
 Latitude: 46d 41m Longitude: 120d 28m ID code: WA-6  
 County:  
 Base in a non-attainment area: N  
 Comment: Weather Data From McChord AFB, WA

Annual heating degree days: 6109  
 Winter heating design temperature (97.5%): 4F  
 Annual average outdoor temperature: 50F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	748	39F	May	330	54F	Sep	224	58F
Feb	590	42F	Jun	190	60F	Oct	417	51F
Mar	617	43F	Jul	127	64F	Nov	589	44F
Apr	613	43F	Aug	132	63F	Dec	711	40F

Base name: Fort McCoy

State: WI - Wisconsin

Last changed: 09/01/88

Latitude: 44d 1m Longitude: 90d 41m

ID code: WI-1

County:

Base in a non-attainment area: N

Comment: Weather Data From La Crosse Map, WI

Annual heating degree days: 7417

Winter heating design temperature (97.5%): -12F

Annual average outdoor temperature: 46F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1471	16F	May	230	60F	Sep	187	61F
Feb	1187	21F	Jun	70	69F	Oct	423	52F
Mar	1052	30F	Jul	27	72F	Nov	869	35F
Apr	549	47F	Aug	45	71F	Dec	1306	21F

Base name: Badger Ordnance Works

State: WI - Wisconsin

Last changed: 09/01/88

Latitude: 43d 22m Longitude: 89d 45m

ID code: WI-2

County:

Base in a non-attainment area: N

Comment: Weather Data From Madison / Traux Field, WI

Annual heating degree days: 7730

Winter heating design temperature (97.5%): -7F

Annual average outdoor temperature: 46F

	MHDD	Tam		MHDD	Tam		MHDD	Tam
Jan	1476	18F	May	282	58F	Sep	205	61F
Feb	1194	23F	Jun	92	68F	Oct	461	51F
Mar	1081	31F	Jul	41	72F	Nov	894	36F
Apr	597	46F	Aug	62	70F	Dec	1344	22F

## USACERL DISTRIBUTION

### Chief of Engineers

ATTN: CEHEC-IM-LH (2)  
ATTN: CEHEC-IM-LP (2)  
ATTN: CECC-R  
ATTN: CERD-L  
ATTN: DAIM-FDF-U

### Secretary of Defense 22202

ATTN: P&L/EP

### CECPW 22310-3862

ATTN: CECPW-FU-M  
ATTN: Library

### US Army Engr District

ATTN: Library (40)

### US Army Engr Division

ATTN: Library (12)

### US Army Europe

ATTN: AEAEN-ODCS 09014

### US Army Materiel Command (AMC)

Alexandria, VA 22333-0001  
ATTN: AMCEN-F

### FORSCOM

Forts Gillem & McPherson 30330  
ATTN: FCEN

### TRADOC

Fort Monroe 23651  
ATTN: ATBO-G

### USARPAC 96858

ATTN: DPW  
ATTN: APEN-A

### CEWES 39180

ATTN: Library

### CECRL 03755

ATTN: Library

### USA AMCOM 61299

ATTN: AMSMC-IR  
ATTN: AMSMC-IS

### Walter Reed Army Medical Center 20307

### National Guard Bureau 20310

ATTN: NGB-ARI

### Naval Facilities Engr Command

ATTN: Code 1652B 22332-2300

### Naval Facilities Engr Service Center 93043

ATTN: Code 241

### US Army HSC

Fort Sam Houston 78234

ATTN: HSLO-F

Fitzsimons Army Medical Ctr

ATTN: HSHG-DPW 80045

### Tyndall AFB 32403

ATTN: HQAFCEA Program Ofc

### Defense Fuel Supply Center

ATTN: DFSC-PR 22314

### Defense Tech Info Center 22304

ATTN: DTIC-FAB (2)

82  
1/95